

Name _____ MATH0320118DATE050919

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VIDEOS (ON DEMAND MATH0320 118)

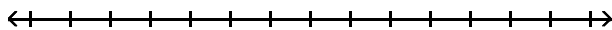
(MK INTERMEDIATE ALG)

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

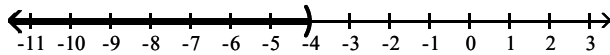
Solve the linear inequality and graph the solution set. State the solution using interval notation.

1) $5x > -20$

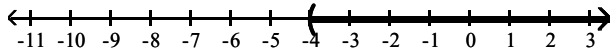
1) _____



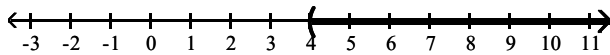
A) $(-\infty, -4)$



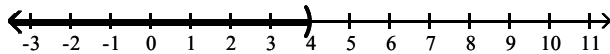
B) $(-4, \infty)$



C) $(4, \infty)$



D) $(-\infty, 4)$



Answer: B

Objective: (2.4) Solve and Graph Linear Inequality

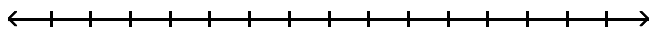
ALVAREZLAB GNUMLY01...20 41...48 51...54

LINEINE1 (1,3) INTERACTMATH SEC 2.4 EXE 21

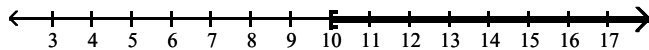
ALVAREZ-- VIDEO 1 fin001

2) $18 - 3x \geq -12$

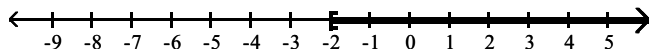
2) _____



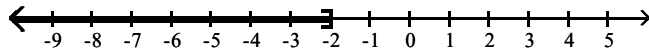
A) $[10, \infty)$



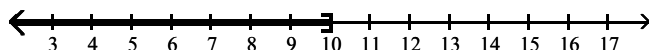
B) $[-2, \infty)$



C) $(-\infty, -2]$



D) $(-\infty, 10]$



Answer: D

Objective: (2.4) Solve and Graph Linear Inequality

ALVAREZLAB GNUMLY01...20 40...48 51...54

LINEINEQ (6,9) LINEINER (5,6) INTERACTMATH SEC 2.4 EXE 43

ALVAREZ-- VIDEO 2 fin002

Solve the linear inequality and state the solution set using interval notation, if applicable.

3) $9x - 8 \leq 4x - 12$

3) _____

A) $[-4, \infty)$

B) $(-\infty, 5]$

C) $\left[-\infty, -\frac{4}{5}\right]$

D) $\left[-\infty, -\frac{4}{5}\right)$

Answer: C

Objective: (2.4) Solve Linear Inequality

ALVAREZLAB GNUMLY01...20 41...48 51...54

LINEINEQ (12,13) INTERACTMATH SEC 2.4 EXE 42

ALVAREZ-- VIDEO 3 fin003

Solve the double inequality for x. State the solution using interval notation.

4) $13 \leq 3x + 1 \leq 19$

4) _____

A) $[4, 6]$

B) $(-6, -4)$

C) $[-6, -4]$

D) $(4, 6)$

Answer: A

Objective: (2.5) Solve Double Inequality

ALVAREZLAB GABSLH01,04,13,14,15,16

LINEINEQ (17) INTERACTMATH SEC 2.5 EXE 55

ALVAREZ-- VIDEO 4 fin004

5) $-13 \leq -2x + 1 < -5$

A) $(3, 7]$

B) $[3, 7]$

C) $(-7, -3]$

D) $[-7, -3)$

5) _____

Answer: A

Objective: (2.5) Solve Double Inequality

ALVAREZLAB LINEINEQ (18) INTERACTMATH SEC 2.5 EXE 59

ALVAREZ VIDEO 5 fin005

Solve the absolute value equation and write the solution set using set notation.

6) $|r - 2| = 5$

A) $\{-7\}$

B) $\{-3, 7\}$

C) $\{ \}$

D) $\{3, 7\}$

6) _____

Answer: B

Objective: (2.6) Solve Absolute Value Equations

ALVAREZLAB GABSLN14...GABSLN21

ABSOLEQA (6) INTERACTMATH SEC 2.6 EXE 25

ALVAREZ-- VIDEO 6 fin006

7) $|x + 6| - 3 = 14$

A) $\{-11, 11\}$

B) $\{17, 11\}$

C) $\{-5, 11\}$

D) $\{-23, 11\}$

7) _____

Answer: D

Objective: (2.6) Solve Absolute Value Equations

ALVAREZLAB GABSLN18...GABSLN21

ABSOLEQA (17) INTERACTMATH SEC 2.6 EXE 27

ALVAREZ-- VIDEO 7 fin007

Solve the absolute value equation involving two absolute values. Write the solution using set notation.

8) $|9x - 4| = |x - 7|$

A) $\left\{-\frac{3}{8}, \frac{11}{10}\right\}$

B) $\left\{\frac{3}{8}, -\frac{11}{10}\right\}$

C) $\left\{-\frac{3}{8}, -\frac{1}{10}\right\}$

D) $\{ \}$

8) _____

Answer: A

Objective: (2.6) Solve Absolute Value Equations (Two Absolute Values)

ALVAREZLAB ABSOLEQX (1,2) INTERACTMATH SEC 2.6 EXE 47

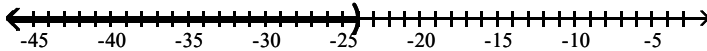
ALVAREZ VIDEO 8 fin008

Solve the absolute value inequality. Graph the solution set, then write the answer using interval notation.

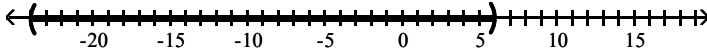
9) $|x + 9| < 15$

9) _____

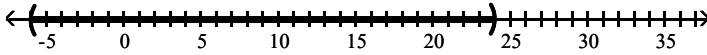
A) $(-\infty, -24)$



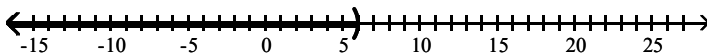
B) $(-24, 6)$



C) $(-6, 24)$



D) $(-\infty, 6)$



Answer: B

Objective: (2.6) Solve and Graph Absolute Value Inequality ($<$, \leq)

ALVAREZLAB GABSLI01...GABSLI32

ABSOLINQ (9) ABSOLIN1 (1...12...18)

INTERACTMATH SEC 2.6 EXE 55

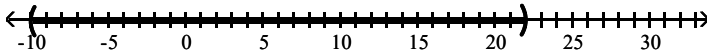
ALVAREZ-- VIDEO 9 fin009

Solve the absolute value equation or inequality. State the solution using set notation or interval notation, whichever is appropriate.

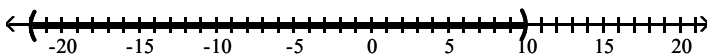
10) $|x + 6| > 16$

10) _____

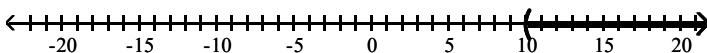
A) $(-10, 22)$



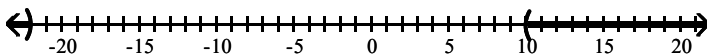
B) $(-22, 10)$



C) $(10, \infty)$



D) $(-\infty, -22) \cup (10, \infty)$



Answer: D

Objective: (2.6) Solve and Graph Absolute Value Inequality ($>$, \geq)

ALVAREZLAB GABSLI01...GABSLI32

ABSOLINQ (10) ABSOLIN1 (1...13...18)

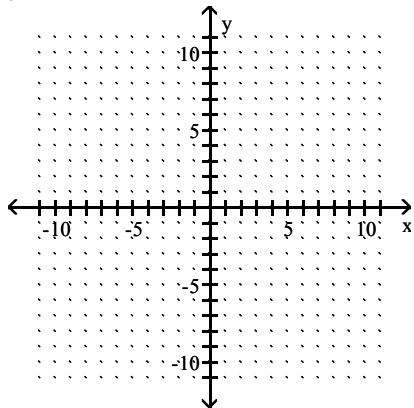
INTERACTMATH SEC 2.6 EXE 73

ALVAREZ--VIDEO 10 fin010

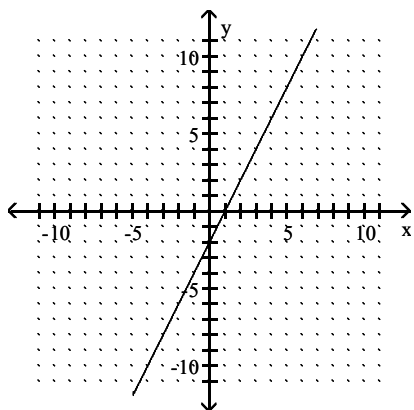
Graph the solutions to the linear equation by plotting points.

11) $y = 2x - 2$

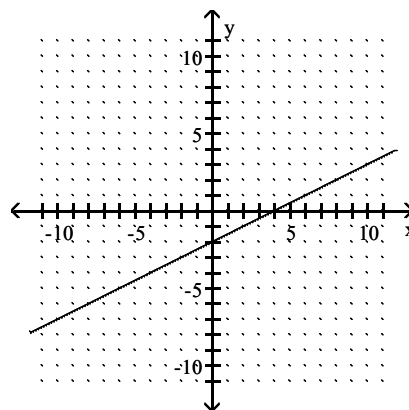
11) _____



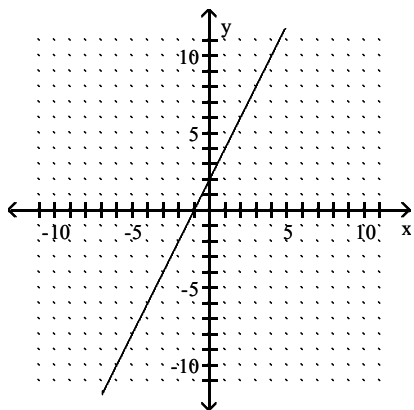
A)



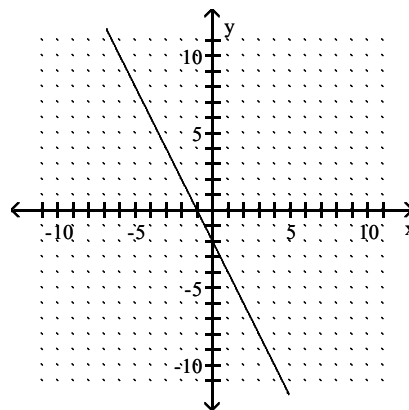
B)



C)



D)



Answer: A

Objective: (3.1) Graph Linear Equation by Plotting Points

ALVAREZLAB **BEN1003...BEN1010**

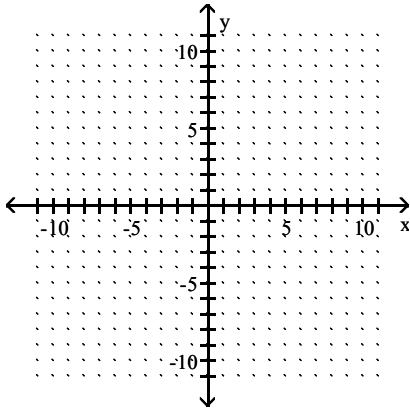
INTERACTMATH SEC 3.1 EXE 51

ALVAREZ- VIDEO 11 fin011

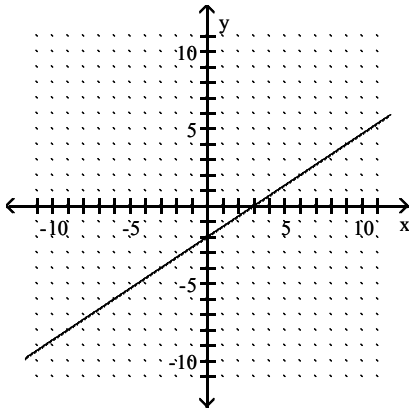
Use the intercept method to graph the solutions of the linear equation.

12) $2x - 3y = 6$

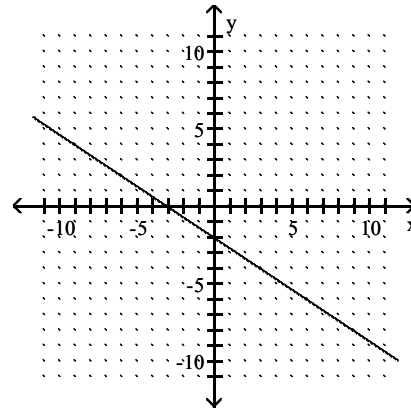
12) _____



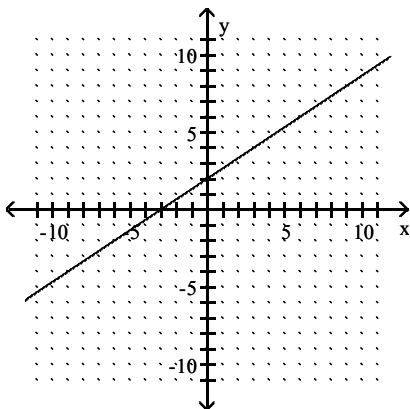
A)



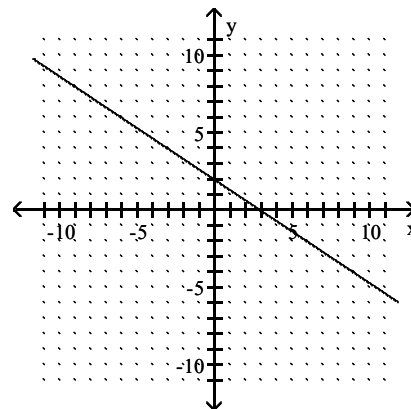
B)



C)



D)



Answer: A

Objective: (3.2) Graph Linear Equation Using Intercept Method

ALVAREZLAB BEN1028 GTASPT52...GTASPT55

GTASPT62...GTASPT65 GTASPT72...GTASPT75

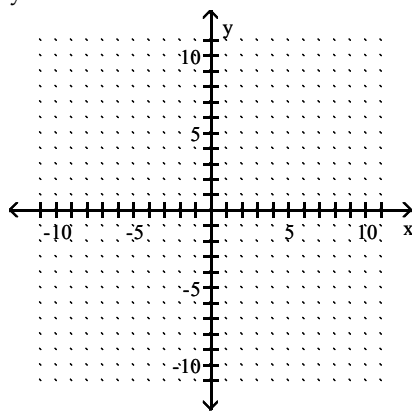
LINEXYI1 (3,4)

INTERACTMATH SEC 3.2 EXE 9

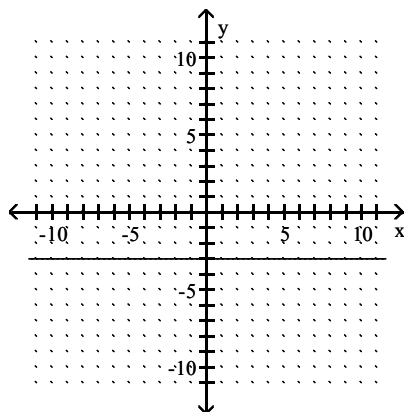
ALVAREZ-- VIDEO 12 fin012

13) $y = -3$

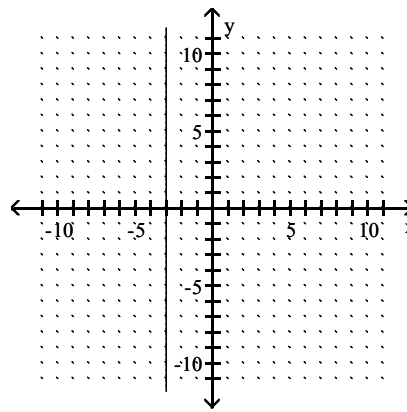
13) _____



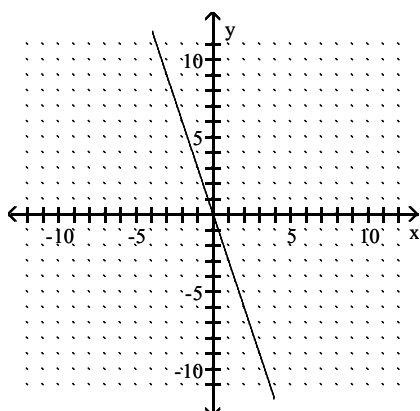
A)



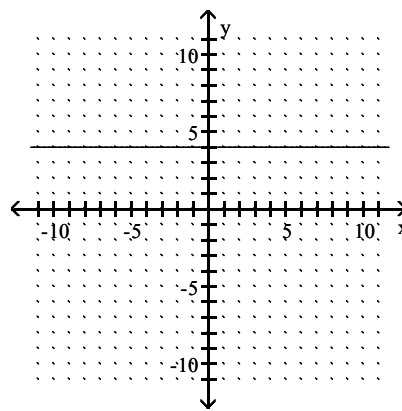
B)



C)



D)



Answer: A

Objective: (3.2) Graph Horizontal and Vertical Lines

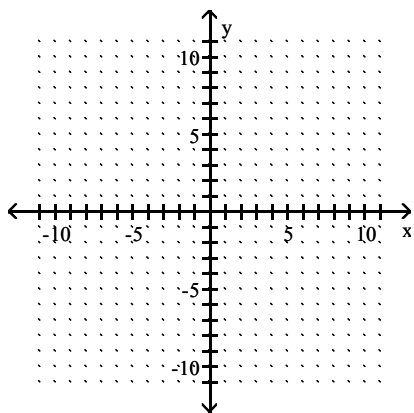
ALVAREZLAB **BEN1011..BEN1012**

INTERACTMATH SEC 3.2 EXE 35

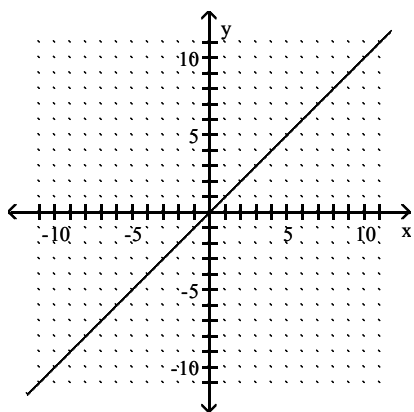
ALVAREZ VIDEO 13 fin013

14) $x = 4$

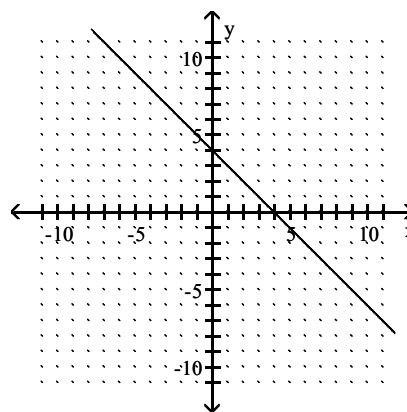
14) _____



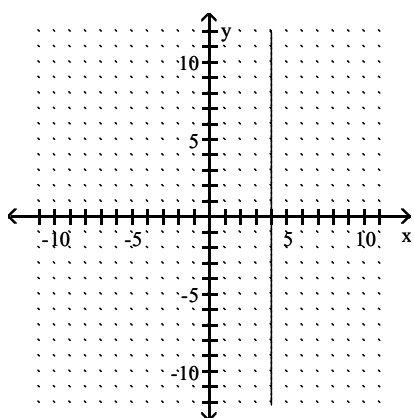
A)



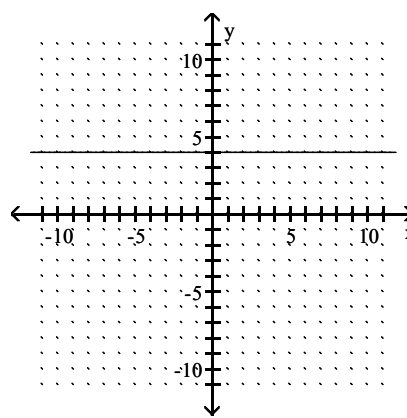
B)



C)



D)



Answer: C

Objective: (3.2) Graph Horizontal and Vertical Lines

ALVAREZLAB **BEN1013**

INTERACTMATH SEC 3.2 EXE 29

ALVAREZ- VIDEO 14 fin014

Find the slope of the straight line through the two solution points.

15) (8, 3) and (-4, 4)

A) $m = -\frac{5}{8}$

B) $m = -\frac{1}{12}$

C) $m = -12$

D) $m = -\frac{8}{5}$

15) _____

Answer: B

Objective: (3.3) Find Slope of Line Given Two Points

ALVAREZLAB **GSLOPE01...GSLOPE09**

LISLOP1 (1,2,3,6,7,8,9,10,12,13) INTERACTMATH SEC 3.3 EXE 31

ALVAREZ-- VIDEO 15 fin015

16) (-3, -9) and (-3, -1)

A) $m = -\frac{5}{8}$

B) $m = -\frac{8}{5}$

C) undefined

D) $m = 8$

16) _____

Answer: C

Objective: (3.3) Find Slope of Line Given Two Points

ALVAREZLAB **GSLOPE08...09**

LINESLOP (5) INTERACTMATH SEC 3.3 EXE 35

ALVAREZ-- VIDEO 16 fin016

17) (-8, 8) and (1, 8)

A) $m = 1$

B) $m = 2$

C) $m = 0$

D) $m = 11$

17) _____

Answer: C

Objective: (3.3) Find Slope of Line Given Two Points

ALVAREZLAB **GSLOPE05...07**

LINESLOP (4) INTERACTMATH SEC 3.3 EXE 33

ALVAREZ-- VIDEO 17 fin017

Find the slope and the y-intercept by using the slope-intercept form of the equation of the line. If necessary, solve for y first.

18) $y = 4x - 5$

A) $m = -5, (0, 4)$

B) $m = 4, (0, 5)$

C) $m = 5, (0, 4)$

D) $m = 4, (0, -5)$

18) _____

Answer: D

Objective: (3.3) Find Slope and y-Intercept Given Equation

ALVAREZLAB LINESLOP (8,9,10,11,13,14,23,24) INTERACTMATHSEC 3.3 EXE 51

ALVAREZ VIDEO 18 fin018

Write the equation of the line having the given slope and passing through the given point.

19) $m = 3, (-3, 6)$

A) $x = 3y + 15$

B) $y = 3x + 15$

C) $y = 3x - 15$

D) $x = 3y - 15$

19) _____

Answer: B

Objective: (3.4) Write Equation of Line Given Slope and Point

ALVAREZLAB **GTASPT80...85**

LINESLOP (17,18) LINESLOB (1) INTERACTMATH 3.4 EXE 23

ALVAREZ-- VIDEO 19 fin019

Write the equation of the line passing through the given points.

20) $(-3, -4)$ and $(-2, -6)$

A) $y = -10x - 2$

B) $y = -10x + 2$

C) $y = -2x - 10$

D) $y = 2x - 10$

20) _____

Answer: C

Objective: (3.4) Write Equation of Line Given Two Points

ALVAREZLAB GTASPT86...96

LINESLOB (4,5,9) INTERACTMATH SEC 3.4 EXE 29

ALVAREZ-- VIDEO 20 fin020

Determine if the pair of lines is parallel, perpendicular, or neither.

21) $y = 6x - 8$

$y = -\frac{1}{6}x - 1$

A) perpendicular

B) parallel

C) neither

Answer: A

Objective: (3.4) Determine if Lines Are Parallel, Perpendicular, or Neither

ALVAREZLAB GPARAL03,04,07,08,15,16

LISLOPE2 (1...15...24)

INTERACTMATH SEC 3.4 EXE 33

ALVAREZ-- VIDEO 21 fin021

22) $y = 9x - 6$

$y = 9x + 4$

A) perpendicular

B) neither

C) parallel

Answer: C

Objective: (3.4) Determine if Lines Are Parallel, Perpendicular, or Neither

ALVAREZLAB GPARAL01,02,05,06,13,14

LISLOPE2 (1...24)

INTERACTMATH SEC 3.4 EXE 35

ALVAREZ-- VIDEO 22 fin022

23) $y = 5x - 4$

$y = -5x - 8$

A) perpendicular

B) neither

C) parallel

Answer: B

Objective: (3.4) Determine if Lines Are Parallel, Perpendicular, or Neither

ALVAREZLAB GPARAL09,10,11,12,17,18

LISLOPE2 (1...19...24)

INTERACTMATH SEC 3.4 EXE 39

ALVAREZ-- VIDEO 23 fin023

21) _____

22) _____

23) _____

Write the equation of the line with the given conditions. If the line is not horizontal or vertical, write the equation in standard form, $Ax + By = C$.

24) Perpendicular to the line given by $y = 5x + 1$ containing the point $(0, -3)$.

- A) $5x + y = 5$ B) $5x + y = -15$ C) $x + 5y = -15$ D) $x - 5y = -15$

24) _____

Answer: C

Objective: (3.4) Write Equation of Parallel or Perpendicular Line

ALVAREZLAB LINESLOB (15,16) INTERACTMATH SEC 3.4 EXE 48

ALVAREZ VIDEO 24 fin024

25) Parallel to the line given by $y = -\frac{4}{5}x - 1$ containing the point $(0, 1)$.

- A) $4x - 5y = 5$ B) $4x + 5y = 1$ C) $5x + 4y = 5$ D) $4x + 5y = 5$

25) _____

Answer: D

Objective: (3.4) Write Equation of Parallel or Perpendicular Line

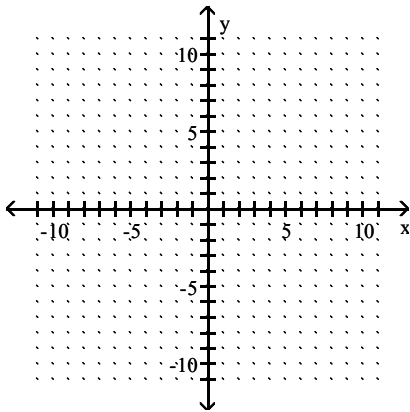
ALVAREZLAB LINESLOB (11,12,14) INTERACTMATH 3.4 EXE 51

ALVAREZ VIDEO 25 fin025

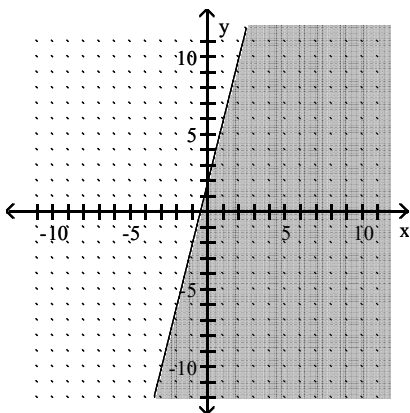
Graph the linear inequality in two variables on the coordinate plane.

26) $y \leq -4x + 2$

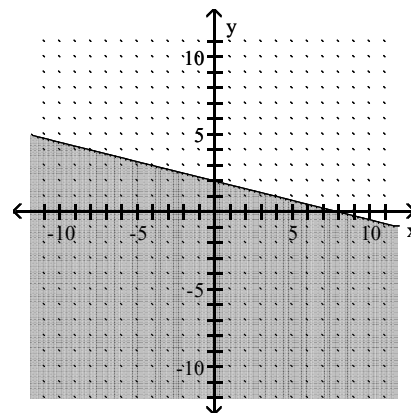
26) _____



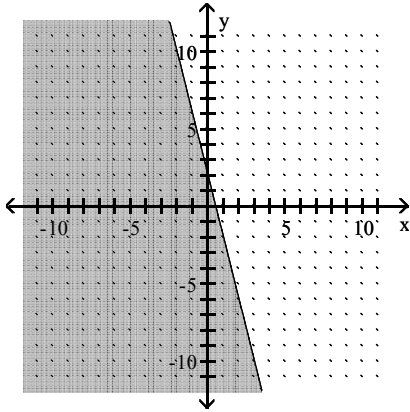
A)



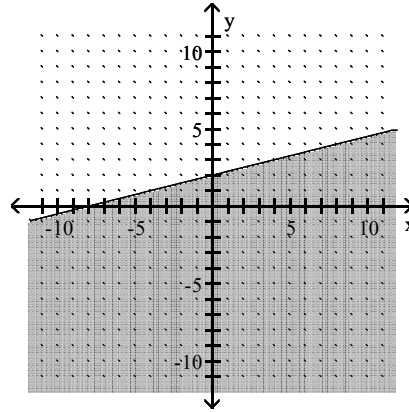
B)



C)



D)



Answer: C

Objective: (3.5) Graph Linear Inequality

ALVAREZLAB GTASH01 GTASH02

INTERACTMATH SEC 3.5 EXE 7

ALVAREZ VIDEO 26 fin026

Determine whether the relation represents a function.

27) $\{(-4, -8), (-3, -4), (3, -1), (5, -8)\}$

A) function

B) not a function

27) _____

Answer: A

Objective: (3.6) Determine if Relation Represents Function

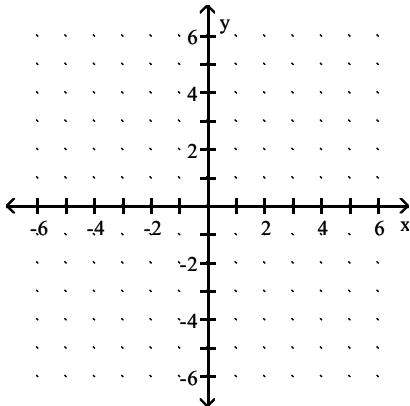
ALVAREZLAB FUNCTREL (3,7,8,9,10,11,12) INTERACTMATH 3.6 EXE 17

ALVAREZ VIDEO 27 fin027

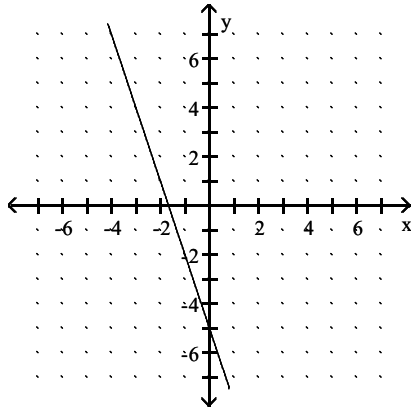
Graph the linear function. State the domain and range of the function using interval notation.

28) $h(x) = -3x - 5$

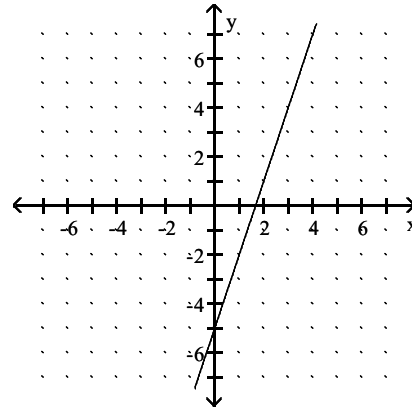
28) _____



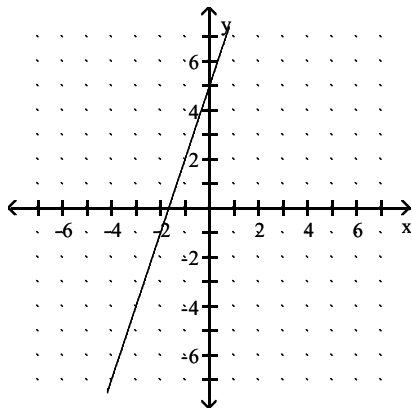
A) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



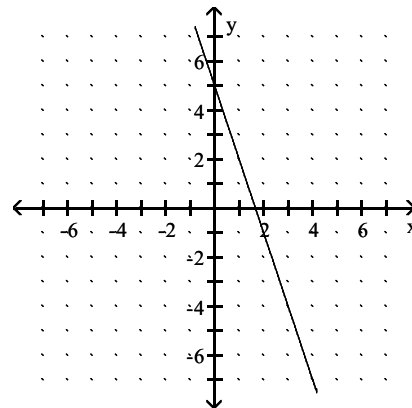
B) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



C) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



D) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



Answer: A

Objective: (3.6) Graph Linear Function and State Domain and Range

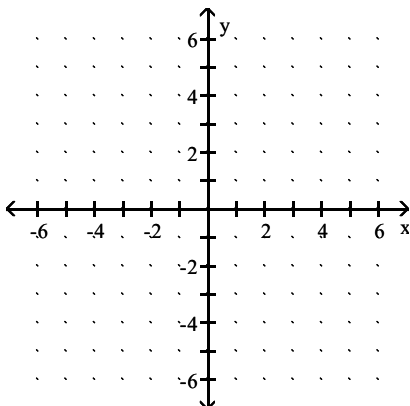
ALVAREZLAB BEN1007...BEN1010

INTERACTMATH SEC 3.6 EXE 29

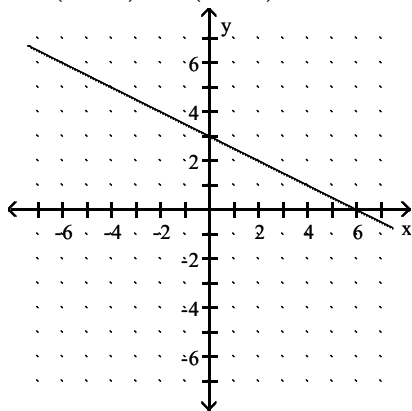
ALVAREZ- VIDEO 28 fin028

29) $f(x) = \frac{1}{2}x + 3$

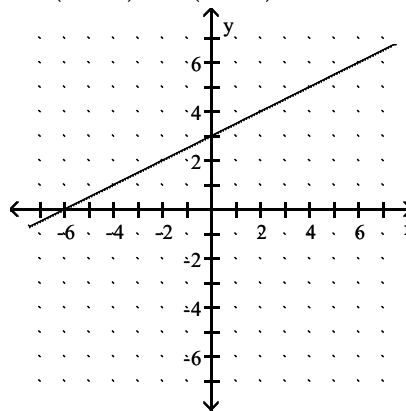
29) _____



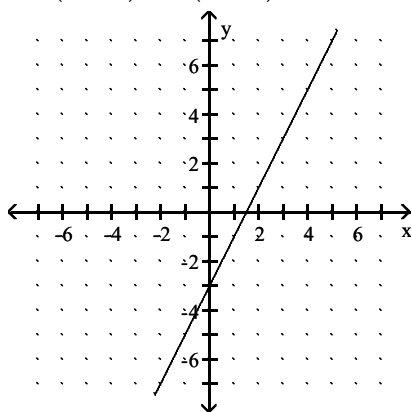
A) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



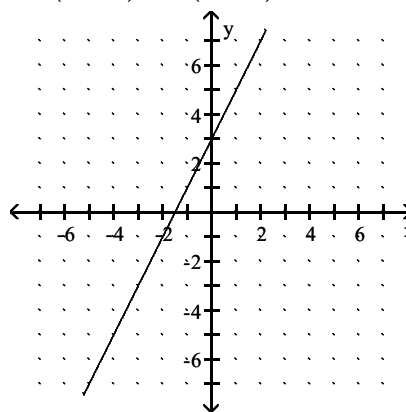
B) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



C) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



D) $D = (-\infty, \infty)$; $R = (-\infty, \infty)$



Answer: B

Objective: (3.6) Graph Linear Function and State Domain and Range

ALVAREZLAB BEN1014...BEN1021

INTERACTMATH SEC 3.6 EXE 34

ALVAREZ-- VIDEO 29 fin029

Evaluate the function at the given value of the independent variable. State the answer as an ordered pair.

30) $g(x) = 3x$; $g(-3)$

A) $(3, -9)$

B) $(-3, 0)$

C) $(-3, 9)$

D) $(-3, -9)$

30) _____

Answer: D

Objective: (3.6) Evaluate Function

ALVAREZLAB GFUNEV01...12

FUNCTP01 (1...14) FUNCTP02 (1...16) INTERACTMATH SEC 3.6 EXE 37

ALVAREZ-- VIDEO 30 fin030

31) $f(x) = -3x$; $f(n)$

A) $(n, -3n)$

B) $(-3n, n)$

C) $(n, -3xn)$

D) $(n, 3n)$

31) _____

Answer: A

Objective: (3.6) Evaluate Function

ALVAREZLAB FUNCTVA1 (1...14) INTERACTMATH SEC 3.6 EXE 41

ALVAREZ VIDEO 31 fin031

- 32) $g(x) = 8x + 3$, $g(a)$ 32) _____
A) $(a, 8a + 3)$ B) $(a, 24a)$ C) $(a, 11a)$ D) $(a, 11)$

Answer: A

Objective: (3.6) Evaluate Function

ALVAREZLAB FUNCTVA1 (1...14)

INTERACTMATH SEC 3.6 EXE 41

ALVAREZ VIDEO 32 fin032

- 33) $f(x) = 5x^2 + 4x + 2$; $f(-4)$ 33) _____
A) $(-4, 2)$ B) $(-4, 62)$ C) $(-4, 66)$ D) $(-4, 98)$

Answer: C

Objective: (3.6) Evaluate Function

ALVAREZLAB GFUNEV01...08

FUNCTE02 (5,6) FUNCTP01 (1...14) FUNCTP02 (1...4...16)

INTERACTMATH SEC 3.6 EXE 46

ALVAREZ-- VIDEO 33 fin033

- 34) $h(x) = 3x^2 + 4x + 5$; $h(k)$ 34) _____
A) $(k, 3k^2 + 4k + 5)$ B) $(k, 9k^2 + 16k + 25)$
C) $(k, 3k^2 + 16k + 5)$ D) $(k, 3k^2 + 4k + 25)$

Answer: A

Objective: (3.6) Evaluate Function

ALVAREZLAB FUNCTVA1 (1...3...14)

INTERACTMATH SEC 3.6 EXE 46

ALVAREZ VIDEO 34 fin034

- 35) $f(x) = |x + 4|$; $f(6)$ 35) _____
A) $(6, -4)$ B) $(6, 10)$ C) $(6, 6)$ D) $(6, -10)$

Answer: B

Objective: (3.6) Evaluate Function

ALVAREZLAB GFUNEV09,10

FUNCTP02 (16) INTERACTMATH SEC 3.6 EXE 49

ALVAREZ--VIDEO 35 fin035

- 36) $f(x) = |x - 7|$; $f(-9)$ 36) _____
A) $(-9, -9)$ B) $(-9, 7)$ C) $(-9, 16)$ D) $(-9, -16)$

Answer: C

Objective: (3.6) Evaluate Function

ALVAREZLAB GFUNEV09,10

FUNCTP02 (16) INTERACTMATH SEC 3.6 EXE 49

ALVAREZ-- VIDEO 36 fin036

37) $h(x) = \frac{x^2 - 4}{x}; h(-4)$

37) _____

A) (-3, -4)

B) (-4, -5)

C) (-4, -3)

D) (-4, 3)

Answer: C

Objective: (3.6) Evaluate Function

ALVAREZLAB GFUNEV11...12

FUNCTP02 (13,14)

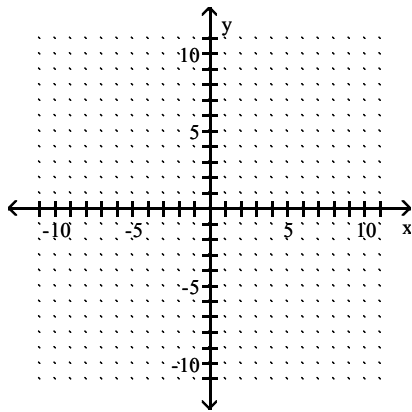
INTERACTMATH SEC 3.6 EXE 46

ALVAREZ--VIDEO 37 fin037

Solve the system of linear equations using the Graphing Method. State the solution as an ordered pair, if possible. Otherwise, state "infinitely many solutions" or "no solution."

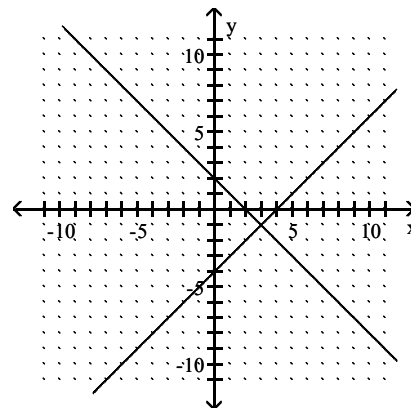
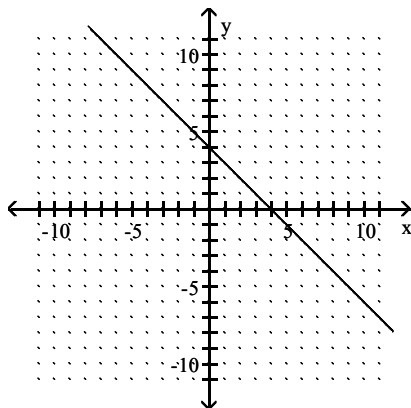
38)
$$\begin{cases} L1 & x + y = 4 \\ L2 & x - y = 2 \end{cases}$$

38) _____

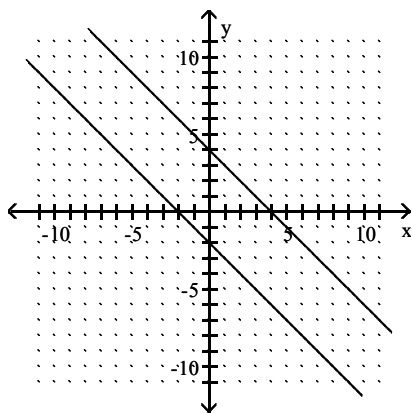


A) infinitely many solutions

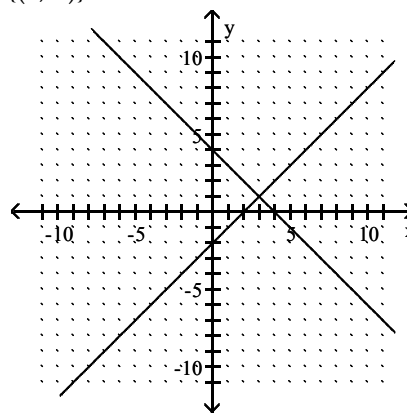
B) {(3, -1)}



C) no solution



D) $\{(3, 1)\}$



Answer: D

Objective: (4.1) Solve System of Linear Equations by Graphing

ALVAREZLAB GTASPI01..10 GPARAL01..18

SYSTEMS (8)

INTERACTMATH SEC 4.1 EXE 21

ALVAREZ-- VIDEO 38 fin038

Solve the system of linear equations using the Substitution Method.

$$39) \begin{cases} x + y = 10 \\ 3x + 5y = 16 \end{cases}$$

A) $\{ \}$
C) $\{(3, 7)\}$

B) $\{(x, y) \mid x + y = 10\}$
D) $\{(17, -7)\}$

39) _____

Answer: D

Objective: (4.2) Solve System of Linear Equations Using Substitution

ALVAREZLAB GSYSTEMS01..08,11,12 GSYSTE01..14 GSYSTE20..28

SYSTEM2 (1..6...10) SYSTEMS (15)

INTERACTMATH SEC 4.2 EXE 9

ALVAREZ-- VIDEO 39 fin039

$$40) \begin{cases} 6x + 9y = 2 \\ 3y = -2x + 4 \end{cases}$$

A) $\{ \}$
C) $\{(x, y) \mid 6x + 9y = 2\}$

B) $\{(1, -1)\}$
D) $\{(-1, 2)\}$

40) _____

Answer: A

Objective: (4.2) Solve System of Linear Equations Using Substitution (Inconsistent/Dependent)

ALVAREZLAB GSYSTEMS01..08,11,12 GSYSTE01..14 GSYSTE20..28

SYSTEM2 (1..6...10) SYSTEMS (17,18)

INTERACTMATH SEC 4.2 EXE 13

ALVAREZ-- VIDEO 40 fin040

Solve the system of linear equations using the Elimination Method.

41) $\begin{cases} x - y = 7 \\ x + y = 5 \end{cases}$ 41) _____
A) $\{(-6, -13)\}$ B) $\{(6, -1)\}$
C) $\{(x, y) \mid x - y = 7\}$ D) $\{ \}$

Answer: B

Objective: (4.3) Solve System of Linear Equations Using Elimination

ALVAREZLAB **GSYSYSTE01..14** **GSYSYSTE20...28** **GSYSYSTS01..08,11,12**

SYSTEM1 (1...8...15...18) SYSTEMS (7,8,9,10,11,12,13)

INTERACTMATH SEC 4.3 EXE 7

ALVAREZ-- VIDEO 41 fin041

42) $\begin{cases} 4x + 3y = 8 \\ 5x + 4y = 11 \end{cases}$ 42) _____
A) $\{(x, y) \mid 4x + 3y = 8\}$ B) $\{(5, -4)\}$
C) $\{(-1, 4)\}$ D) $\{ \}$

Answer: C

Objective: (4.3) Solve System of Linear Equations Using Elimination

ALVAREZLAB **GSYSYSTE01..14** **GSYSYSTE20...28** **GSYSYSTS01..08,11,12**

SYSTEM1 (1...8...15...18) SYSTEMS (14,15)

INTERACTMATH SEC 4.3 EXE 13

ALVAREZ-- VIDEO 42 fin042

Factor out the GCF using the Distributive Property.

43) $5a^6 + 20a^4$ 43) _____
A) $5(a^6 + 4a^4)$ B) $20(a^2 + 4a)$ C) $a^4(5a^2 + 20)$ D) $5a^4(a^2 + 4)$

Answer: D

Objective: (6.1) Factor Out GCF

no video fin043

Factor by grouping.

44) $x^2 + 7x + xy + 7y$ 44) _____
A) $(x - 7)(x - y)$ B) $(x + 7)(x + y)$ C) $(x + 7)(x - y)$ D) $(x - 7)(x + y)$

Answer: B

Objective: (6.1) Factor by Grouping

no video fin044

45) $ty - 7y - 9t + 63$ 45) _____
A) $(t - 7)(y + 9)$ B) $(t + 7)(y - 9)$ C) $(t - 7)(y - 9)$ D) $(t + 7)(y + 9)$

Answer: C

Objective: (6.1) Factor by Grouping

no video fin045

Factor, if possible, using the difference or sum of squares. If a polynomial is not factorable, write "prime."

46) $121k^2 - 64m^2$ 46) _____
A) prime B) $(11k - 8m)^2$
C) $(11k + 8m)(11k - 8m)$ D) $(11k + 8m)^2$

Answer: C

Objective: (6.2) Factor Sum or Difference of Squares

no video fin046

Factor the trinomial using the general factoring strategy. If a trinomial is not factorable, write "prime."

47) $2x^3 + 4x^2 - 16x$ 47) _____
A) prime B) $2x(x + 2)(x - 4)$ C) $(2x^2 + 4x)(x - 4)$ D) $2x(x - 2)(x + 4)$

Answer: D

Objective: (6.4) Factor Using General Strategy
no video fin047

48) $y^3 + 6y^2 + 9y$ 48) _____
A) $y(y + 9)(y + 1)$ B) $(y^2 + 9)(y + 1)$ C) $y(y + 3)(y - 3)$ D) $y(y + 3)^2$

Answer: D

Objective: (6.4) Factor Using General Strategy
no video fin048

Factor the polynomial completely using the general factoring strategy. If the polynomial is not factorable, write "prime."

49) $x^2 - 2x - 63$ 49) _____
A) prime B) $(x - 7)(x + 9)$ C) $(x + 7)(x - 9)$ D) $(x - 63)(x + 1)$

Answer: C

Objective: (6.5) Factor Trinomial
no video fin049

50) $14y^2 + 63y - 35$ 50) _____
A) $(14y - 7)(y + 5)$ B) $7(2y + 1)(y - 5)$ C) $7(2y - 1)(y + 5)$ D) $(2y - 1)(7y + 35)$

Answer: C

Objective: (6.5) Factor Trinomial
no video fin050

Solve the equation using the Zero Factor Property and state the solution set.

51) $(x - 9)(x + 6) = 0$ 51) _____
A) $\{9, -9, 6, -6\}$ B) $\{9, 6\}$ C) $\{-9, 6\}$ D) $\{9, -6\}$

Answer: D

Objective: (6.6) Solve Equation Using Zero Factor Property (Equation = 0)
no video fin051

52) $24n^2 + 20n = 0$ 52) _____
A) $\left\{-\frac{5}{6}, 0\right\}$ B) $\left\{-\frac{5}{6}, 20\right\}$ C) $\left\{-\frac{5}{6}\right\}$ D) $\{0\}$

Answer: A

Objective: (6.6) Solve Equation Using Zero Factor Property (Equation = 0)
no video fin052

53) $x^2 - x = 42$ 53) _____
A) $\{6, 7\}$ B) $\{-6, 7\}$ C) $\{-6, -7\}$ D) $\{1, 42\}$

Answer: B

Objective: (6.6) Solve Equation Using Zero Factor Property (Equation \neq 0)
no video fin053

Simplify the rational expression.

54) $\frac{(y + 3)(y - 4)}{(y - 4)(y + 9)}$ 54) _____
A) $\frac{y + 3}{y + 9}$ B) $\frac{y + 4}{y + 5}$ C) $\frac{y - 3}{y - 9}$ D) $\frac{2y - 4}{2y + 5}$

Answer: A

Objective: (7.1) Simplify Rational Expression
no video fin054

55) $\frac{5x - 15}{x^2 - 9}$

55) _____

A) $-\frac{5}{x+3}$

B) $\frac{5}{x-3}$

C) $\frac{5}{x+3}$

D) $-\frac{10}{x-9}$

Answer: C

Objective: (7.1) Simplify Rational Expression
no video fin055

Multiply the rational expressions and write the answer in lowest terms.

56) $\frac{a^2 - 9b^2}{15ab^2} \cdot \frac{3a^2b}{a - 3b}$

56) _____

A) $\frac{a^2 + 3ab}{5}$

B) $\frac{a^2 + 3ab}{5b}$

C) $\frac{a + 3b}{5ab}$

D) $\frac{a^2 - 3ab}{5b}$

Answer: B

Objective: (7.2) Multiply Rational Expressions
no video fin056

Divide the rational expressions and write the answer in lowest terms.

57) $\frac{m^2 - 16}{m^2 + 4m - 32} \div \frac{m^2 - 4m - 32}{m - 4}$

57) _____

A) $\frac{m - 4}{m - 8}$

B) $\frac{m - 4}{(m + 8)(m - 8)}$

C) $\frac{m + 4}{(m + 8)(m - 8)}$

D) $\frac{m - 4}{m^2}$

Answer: B

Objective: (7.2) Divide Rational Expressions
no video fin057

Solve the equation.

58) $\frac{3}{7x} + \frac{1}{2x} = -\frac{1}{14}$

58) _____

A) $\{-13\}$

B) $\{13\}$

C) $\{-14\}$

D) $\{ \}$

Answer: A

Objective: (7.5) Solve Equation Involving Rational Expression

ALVAREZLAB QUADLCD (1) INTERACTMATHSEC 7.5 EXE 18

ALVAREZ VIDEO 43 fin058

59) $\frac{2}{y+2} - \frac{5}{y-2} = \frac{10}{y^2 - 4}$

59) _____

A) $\{\sqrt{4}\}$

B) $\{24\}$

C) $\{-8\}$

D) $\{8\}$

Answer: C

Objective: (7.5) Solve Equation Involving Rational Expression

ALVAREZLAB GQLCDM01...04

QUADLCD (9,10,11,12) INTERACTMATH SEC 7.5 EXE31

ALVAREZ VIDEO 44 fin059

Simplify using the product rule for radicals.

60) $\sqrt{75}$

A) $3\sqrt{5}$

B) 8

C) 15

D) $5\sqrt{3}$

60) _____

Answer: D

Objective: (8.1) Simplify Using Product Rule

ALVAREZLAB GRADSU02 GRADRU01..04

RADICALR (1,2)

INTERACTMATH SEC 8.1 EX27

ALVAREZ-- VIDEO 45 fin060

Write in simplified radical form. Assume that all variables represent positive real numbers.

61) $\sqrt{169x^6yz^9}$

A) $13x^3z^4\sqrt{yz}$

B) $6.5x^3yz^4$

C) $6.5x^3z^4\sqrt{xyz}$

D) $13x^4z^7\sqrt{y}$

61) _____

Answer: A

Objective: (8.1) Write in Simplified Radical Form

ALVAREZLAB GRADSU03...08 GRADRU01..04

RADICALR (5...8...13) INTERACTMATH SEC 8.1 EXE 81

ALVAREZ-- VIDEO 46 fin061

Perform the indicated operations. Write the answer in simplified radical form. Assume that all variables represent positive real numbers.

62) $8\sqrt{5} + 3\sqrt{20}$

A) $14\sqrt{5}$

B) $-14\sqrt{5}$

C) $-2\sqrt{5}$

D) $11\sqrt{5}$

62) _____

Answer: A

Objective: (8.1) Add/Subtract Square Roots

ALVAREZLAB GRADSU09..18

RADICALR (14,15,16) RADICALS (1...4...14) INTERACTMATH SEC 8.1 EXE 99

ALVAREZ-- VIDEO 47 fin062

Multiply. Write the answer in simplified radical form. Assume that all variables represent positive real numbers.

63) $\sqrt{3x^3} \cdot \sqrt{6x^2}$

A) $2x^4\sqrt{3x}$

B) $3x^2\sqrt{2x}$

C) $6x^2\sqrt{x}$

D) $3x^4\sqrt{2x}$

63) _____

Answer: B

Objective: (8.2) Multiply Square Roots

ALVAREZLAB GRADRU01..04

RADICALM (1...10...16) INTERACTMATH SEC 8.2 EXE 19

ALVAREZ-- VIDEO 48 fin063

Rationalize the denominator. Write the answer in simplified radical form. Assume that all variables represent positive real numbers.

64) $\frac{2}{8 - \sqrt{3}}$

64) _____

A) $\frac{16 + 2\sqrt{3}}{5}$

B) $\frac{2}{8} - \frac{2}{\sqrt{3}}$

C) $\frac{16 + 2\sqrt{3}}{61}$

D) $\frac{16 - 2\sqrt{3}}{61}$

Answer: C

Objective: (8.2) Rationalize Denominator

ALVAREZLAB GRADRT01..06

RATIDEN1 (1...6) INTERACTMATH SEC 8.2 EXE 83

ALVAREZ-- VIDEO 49 fin064

65) $\frac{\sqrt{7}}{\sqrt{7} - \sqrt{2}}$

65) _____

A) $\frac{49 + \sqrt{14}}{5}$

B) $\frac{7 + \sqrt{14}}{45}$

C) $\frac{7 + \sqrt{14}}{5}$

D) $\frac{7 - \sqrt{14}}{5}$

Answer: C

Objective: (8.2) Rationalize Denominator

ALVAREZLAB GRADRT01..06

RADIDEN1 (1...2...6) INTERACTMATH SEC 8.2 EXE 85

ALVAREZ-- VIDEO 50 fin065

Solve and write the solution using set notation.

66) $\sqrt{x+3} = 3$

66) _____

A) {36}

B) {12}

C) {6}

D) {9}

Answer: C

Objective: (8.3) Solve Equation Containing Square Root

ALVAERZLAB GRADIC01..08

QUADRADI (2,3,4,5,6,7) INTERACTMATH SEC 8.3 EXE 9

ALVAREZ-- VIDEO 51 fin066

67) $\sqrt{7-x} = x - 1$

67) _____

A) { }

B) {-2}

C) {3}

D) {-2, 3}

Answer: C

Objective: (8.3) Solve Equation Containing Square Root (Square Binomial)

ALVAREZLAB GRADIC01..08

QUADRADY (1,2,3,4) INTERACTMATH SEC 8.3 EXE 34

ALVAREZ-- VIDEO 52 fin067

Using the distance formula, find the distance between the points.

68) (5, -2) and (2, 2)

A) 25

B) 6

C) 5

D) 10

68) _____

Answer: C

Objective: (8.4) Find Distance Between Two Points

ALVAREZLAB **GDISTA01..04 GMIDPT01..04**

DISTMID1 (1,2,3,4,7,8,9,10,11,12,13,14) INTERACTMATH SEC 8.4 EXE 13

ALVAREZ--VIDEO 53 fin068

69) (10, 0) and (0, -11)

A) 221

B) $\sqrt{221}$

C) 21

D) $\sqrt{21}$

69) _____

Answer: B

Objective: (8.4) Find Distance Between Two Points

ALVAREZLAB **GDISTA01..04 GMIDPT01..04**

DISTMID1 (1,2,3,4,7,8,9,10,11,12,13,14) INTERACTMATH SEC 8.4 EXE 17

ALVAREZ--VIDEO 54 fin069

Find the principal n^{th} root.

70) $\sqrt[3]{1000}$

A) 100

B) ± 10

C) 10

D) 32

70) _____

Answer: C

Objective: (8.5) Find Principal nth Root

ALVAREZLAB

INTERACTMATH SEC 8.5 EXE 9

ALVAREZ VIDEO 55 fin070

Simplify using the product rule or quotient rule for radicals. Write the answer in simplified radical form. Assume that all variables represent positive real numbers.

71) $\sqrt[4]{48x^{28}}$

A) $2\sqrt[4]{3x^7}$

B) $2x^7\sqrt[4]{3}$

C) $16x^7\sqrt[4]{3}$

D) $2x^7\sqrt[4]{3x}$

71) _____

Answer: B

Objective: (8.5) Simplify Radical Using Product Rule or Quotient Rule
no video fin071

72) $\sqrt[3]{-27a^{11}b^{13}}$

A) $-3ab\sqrt[3]{a^5b^4}$

B) $3\sqrt[3]{a^{13}b^{11}}$

C) $-3a^2b\sqrt[3]{a^3b^4}$

D) $-3a^3b^4\sqrt[3]{a^2b}$

72) _____

Answer: D

Objective: (8.5) Simplify Radical Using Product Rule or Quotient Rule

ALVAREZLAB **GRADRU01..04**

INTERACTMATH SEC 8.5 EXE 7

ALVAREZ-- VIDEO 56 fin072

Perform the indicated operations. Write the answer in simplified radical form. Assume that all variables represent positive real numbers.

73) $\sqrt[3]{81} + 4\sqrt[3]{3} - \sqrt[3]{24}$

73) _____

A) $\sqrt[3]{9} + 4\sqrt[3]{3}$

B) $3\sqrt[3]{3}$

C) $5\sqrt[3]{3}$

D) $3\sqrt[3]{9} + 4\sqrt[3]{3} - 2\sqrt[3]{6}$

Answer: C

Objective: (8.5) Perform Indicated Operations

ALVAREZLAB GRADSU01..18

RADICALS (1...8...4) INTERACTMATH SEC 8.5 EXE 31

ALVAREZ-- VIDEO 57 fin073

Evaluate.

74) $100^{1/2}$

74) _____

A) 40

B) 10

C) 20

D) 5

Answer: B

Objective: (8.5) Evaluate with Rational Exponents

no video fin074

Solve and write the solution using set notation.

75) $\sqrt[3]{x+3} = 4$

75) _____

A) {13}

B) {64}

C) {1}

D) {61}

Answer: D

Objective: (8.6) Solve Equation Containing Higher Root

ALVAREZLAB

INTERACTMATH SEC 8.6 EXE 25

ALVAREZ-- VIDEO 58 fin075

Determine whether the relation represents a function. If the relation is a function, state the domain and range.

76) $\{(1, 9), (-1, -8), (-6, -5), (6, -8)\}$

76) _____

A) Yes, D = $\{-8, -5, 9\}$; R = $\{-6, -1, 1, 6\}$

B) No

C) Yes, D = $\{-6, -1, 1, 6\}$; R = $\{-8, -8, -5, 9\}$

D) Yes, D = $\{-6, -1, 1, 6\}$; R = $\{-8, -5, 9\}$

Answer: D

Objective: (9.1) Determine if Relation Represents Function

ALVAREZLAB FUNCTREL (1,2,7,8) INTERACTMATH SEC 9.1 EXE 7

ALVAREZ VIDEO 59 fin076

77) $\{(2, 9), (-2, -9), (-2, -4), (6, -9)\}$

77) _____

A) Yes, D = $\{-9, -4, 9\}$; R = $\{-2, 2, 6\}$

B) No

C) Yes, D = $\{-2, -2, 2, 6\}$; R = $\{-9, -9, -4, 9\}$

D) Yes, D = $\{-2, 2, 6\}$; R = $\{-9, -4, 9\}$

Answer: B

Objective: (9.1) Determine if Relation Represents Function

ALVAREZLAB FUNCTREL (1,2,7,8) INTERACTMATH EXE 9.1 SEC 9

ALVAREZ VIDEO 60 fin077

Find the functional value and write the answer as an ordered pair.

78) $f(x) = 2x + 4$, $f(-5)$

A) $(-5, 14)$

B) $(-5, -14)$

C) $(-5, -6)$

D) $(-5, 6)$

78) _____

Answer: C

Objective: (9.1) Find Functional Value (Number)

ALVAREZLAB GFUNEV01..04

FUNCTP01 (1...4...14)

INTERACTMATH SEC 9.1 EXE 11

ALVAREZ-- VIDEO 61 fin078

79) $h(x) = 3x^2 - 7x - 4$, $h(-5)$

A) $(-5, 106)$

B) $(-5, -114)$

C) $(-5, 36)$

D) $(-5, -44)$

79) _____

Answer: A

Objective: (9.1) Find Functional Value (Number)

ALVAREZLAB GFUNEV05...08

FUNCTP02 (1...5...16) INTERACTMATH SEC 9.1 EXE 19

ALVAREZ-- VIDEO 62 fin079

80) $f(x) = |5x - 4|$, $f(-3)$

A) $(-3, -19)$

B) $(-3, -11)$

C) $(-3, 11)$

D) $(-3, 19)$

80) _____

Answer: D

Objective: (9.1) Find Functional Value (Number)

ALVAREZLAB GFUNEV09,10

FUNCTP02 (16)

INTERACTMATH SEC 9.1 EXE 21

ALVAREZ--VIDEO 63 fin080

Find the functional value.

81) $g(x) = -x^2 - 4x + 9$; $g(t)$

A) $-t^2 - 4x + 9$

B) $-t^2 - 4t + 9t$

C) $-t^2 + 4t + 9$

D) $-t^2 - 4t + 9$

81) _____

Answer: D

Objective: (9.1) Find Functional Value (Variable Expression)

ALVAREZLAB FUNCTVA1 (1...3...14) INTERACTMATH SEC 9.1 EXE 29

ALVAREZ--VIDEO 64 fin081

82) $f(x) = -8x + 3$, $f(x - 4)$

A) $-8x + 35$

B) $-8x + 3$

C) $x + 35$

D) $-8x + 24$

82) _____

Answer: A

Objective: (9.1) Find Functional Value (Variable Expression)

no video fin082

83) $g(x) = 2x^2 - 5x - 3$, $g(x - 1)$

A) $2x^2 - 9x + 4$

B) $2x^2 - 11x - 6$

C) $2x^2 - 9x - 6$

D) $-9x^2 + 2x + 4$

83) _____

Answer: A

Objective: (9.1) Find Functional Value (Variable Expression)

ALVAREZLAB **GFUNCI01..04**

FUNCTVA3 (1...8...14) INTERACTMATH SEC 9.1 EXE 33

ALVAREZ-- VIDEO 65 fin083

84) $f(x) = x^2 + 6$, $f(a + h)$

A) $a^2 + 2ah + h^2 + 6$

B) $a^2 + h^2 + 6a + 6h$

C) $a^2 + h^2 + 6$

D) $a^2 + 2ah + h^2 + 6a + 6h$

84) _____

Answer: A

Objective: (9.1) Find Functional Value (Variable Expression)

ALVAREZLAB **GFUNDE01..08**

FUNCTVA2 (16,17,18) INTERACTMATH SEC 9.1 EXE 43

ALVAREZ-- VIDEO 66 fin084

85) $f(x) = 8x + 8$, $\frac{f(a + h) - f(a)}{h}$

A) $8h$

B) $8a + 8h$

C) 16

D) 8

85) _____

Answer: D

Objective: (9.1) Find Functional Value (Variable Expression)

ALVAREZLAB **GFUNCDF01..08**

FUNCTDQ4 (1...8) INTERACTMATH SEC 9.1 EXE 39

ALVAREZ-- VIDEO 67 fin085

86) $f(x) = 7x^2$, $\frac{f(a + h) - f(a)}{h}$

A) $49a + 7h$

B) $7a + 7h$

C) $14a + 7h$

D) $14a + 14h$

86) _____

Answer: C

Objective: (9.1) Find Functional Value (Variable Expression)

ALVAREZLAB **GFUNDF01..08**

FUNCTDQ4 (11) INTERACTMATH SEC 9.1 EXE 43

ALVAREZ-- VIDEO 68 fin086

Find the following function and its domain.

87) Let $f(x) = 6 - 2x$ and $g(x) = -8x + 2$. Find $(f + g)(x)$.

87) _____

A) $-2x, D = (-\infty, \infty)$

B) $-8x + 6, D = \left\{x \mid x \neq \frac{3}{4}\right\}$

C) $-10x + 8, D = (-\infty, \infty)$

D) $6x + 8, D = \left\{x \mid x \neq \frac{4}{3}\right\}$

Answer: C

Objective: (9.2) Find Sum, Difference, Product, or Quotient of Functions

ALVAREZLAB GFUNSM01,05,09,13,17,21 GFUNSU01..04

FUNCTMAT (1,5,9) INTERACTMATH SEC 9.2 EXE 9

ALVAREZ-- VIDEO 69 fin087

88) Let $f(x) = 2x^2 - 3$ and $g(x) = 7x - 4$. Find $(f - g)(x)$.

88) _____

A) $2x^2 - 7x - 7, D = (-\infty, \infty)$

B) $9x + 1, D = \{x \mid x \neq 1\}$

C) $2x^2 - 7x + 1, D = (-\infty, \infty)$

D) $-5x - 7, D = \left\{x \mid x \neq -\frac{7}{5}\right\}$

Answer: C

Objective: (9.2) Find Sum, Difference, Product, or Quotient of Functions

ALVAREZLAB GFUNSM02,06,10,14,18,22 GFUNCSU01..04

FUNCTMAT (2,6,10) FUNCTAD1 (1,3) FUNCTAD2 (1,4)

INTERACTMATH SEC 9.2 EXE 12

ALVAREZ-- VIDEO 70 fin088

89) Let $f(x) = 5x + 1$ and $g(x) = 2x - 5$. Find $\left(\frac{f}{g}\right)(x)$.

89) _____

A) $\frac{2x - 5}{5x + 1}, D = \left\{x \mid x \neq \frac{5}{2}\right\}$

B) $\frac{5x + 1}{2x - 5}, D = \left\{x \mid x \neq \frac{5}{2}\right\}$

C) $\frac{2x - 5}{5x + 1}, D = \left\{x \mid x \neq -\frac{1}{5}\right\}$

D) $\frac{5x + 1}{2x - 5}, D = \left\{x \mid x \neq -\frac{1}{5}\right\}$

Answer: B

Objective: (9.2) Find Sum, Difference, Product, or Quotient of Functions

ALVAREZLAB GFUNSM04,08,12,16,20,24 GASYMD01...12

FUNCTMAT (4,8,12,13,14,15,16) INTERACTMATH SEC 9.2 EXE 22

ALVAREZ VIDEO 71 fin089

90) Let $f(x) = 5x^2 - 2$ and $g(x) = 4x + 1$. Find $(f \cdot g)(x)$.

90) _____

A) $20x^3 + 5x^2 - 2, D = (-\infty, \infty)$

B) $20x^3 - 8x - 2, D = \{x \mid x \neq 0\}$

C) $20x^3 + 5x^2 - 8x - 2, D = (-\infty, \infty)$

D) $5x^2 + 4x - 2, D = (-\infty, \infty)$

Answer: C

Objective: (9.2) Find Sum, Difference, Product, or Quotient of Functions

ALVAREZLAB GFUNSM03,07,11,15,19,23

FUNCTMAT (3,7,11) INTERACTMATH SEC 9.2 EXE 16

ALVAREZ VIDEO 72 fin090

Find the composition and its domain. Evaluate as indicated.

91) Let $f(x) = 7x + 15$, $g(x) = 4x - 1$. Find $(f \circ g)(a)$.

91) _____

A) $28a + 8$, $D = (-\infty, \infty)$

B) $28a + 59$, $D = (-\infty, \infty)$

C) $28a + 8$, $D = \left[\frac{1}{4}, \infty\right)$

D) $28a + 59$, $D = \left[\frac{1}{4}, \infty\right)$

Answer: A

Objective: (9.2) Find Composition of Functions

ALVAREZLAB **GFUNCJ01...04** **GFUNCL01...08** **GFUNCM01...18**

FUNCTCOM (1...22) INTERACTMATH SEC 9.2 EXE 39

ALVAREZ-- VIDEO 73 fin091

92) Let $f(x) = 4x^2 + 3x + 8$, $g(x) = 3x - 5$. Find $(g \circ f)(x)$.

92) _____

A) $12x^2 + 9x + 19$, $D = (-\infty, \infty)$

B) $4x^2 + 3x + 3$, $D = [0, \infty)$

C) $4x^2 + 9x + 19$, $D = (-\infty, \infty)$

D) $12x^2 + 9x + 29$, $D = [0, \infty)$

Answer: A

Objective: (9.2) Find Composition of Functions

ALVAREZLAB **GFUNCJ01...04** **GFUNCL01...08** **GFUNCM11..18**

FUNCTCF3 (1,2) FUNCTCOM (6,12,13,14,15,16,17,18,19,20)

INTERACTMATH SEC 9.2 EXE 43

ALVAREZ-- VIDEO 74 fin092

93) Let $f(t) = \sqrt{t - 5}$, $g(t) = 4t + 8$. Find $(f \circ g)(t)$.

93) _____

A) $4\sqrt{t - 5} + 8$, $D = [5, \infty)$

B) $4\sqrt{t - 5} + 8$, $D = (5, \infty)$

C) $\sqrt{4t + 3}$, $D = \left[-\frac{3}{4}, \infty\right)$

D) $\sqrt{4t + 3}$, $D = \left[-\frac{3}{4}, \infty\right)$

Answer: C

Objective: (9.2) Find Composition of Functions

ALVAREZLAB **GFUNCJ01...04** **GFUNCL01...08** **GFUNCM11..18**

FUNCTCF3(1,2) FUNCTCOM (13)

INTERACTMATH SEC 9.2 EXE 41

ALVAREZ-- VIDEO 75 fin093

94) Let $f(x) = -2x + 2$, $g(x) = 3x^2 + 2x + 7$. Find $(g \circ f)(6)$.

94) _____

A) 287

B) -72

C) -43

D) -252

Answer: A

Objective: (9.2) Find Composition of Functions

ALVAREZLAB **GFUNCM11..18**

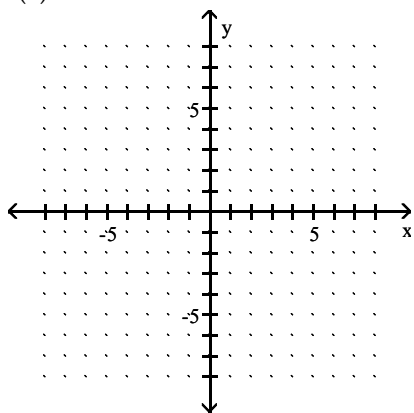
FUNCTCON (13) INTERACTMATH SEC 9.2 EXE 43

ALVAREZ-- VIDEO 76 fin094

Graph the function by plotting points. State the domain and range.

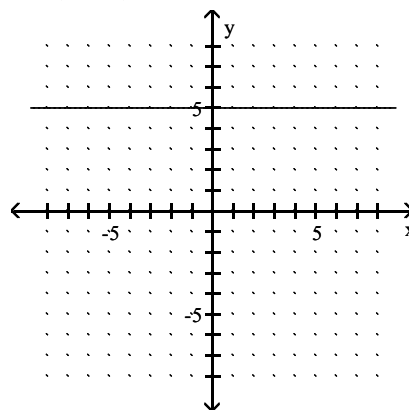
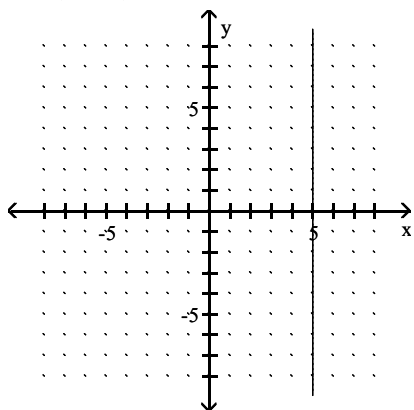
95) $f(x) = 5$

95) _____



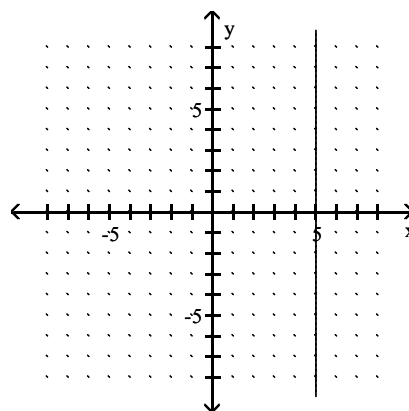
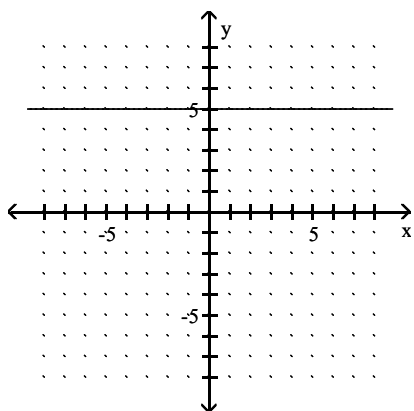
A) $D = \{5\}$
 $R = (-\infty, \infty)$

B) $D = \{5\}$
 $R = (-\infty, \infty)$



C) $D = (-\infty, \infty)$
 $R = \{5\}$

D) $D = (-\infty, \infty)$
 $R = (-\infty, \infty)$



Answer: C

Objective: (9.3) Graph Function

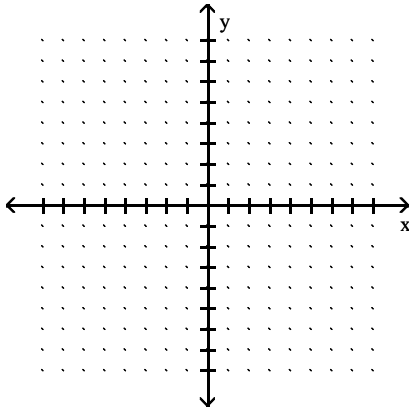
ALVAREZLAB BEN1011...BEN1012

INTERACTMATH SEC 9.3 EXE 13

ALVAREZ--VIDEO 77 fin095

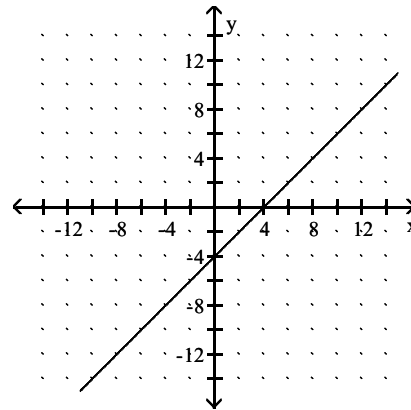
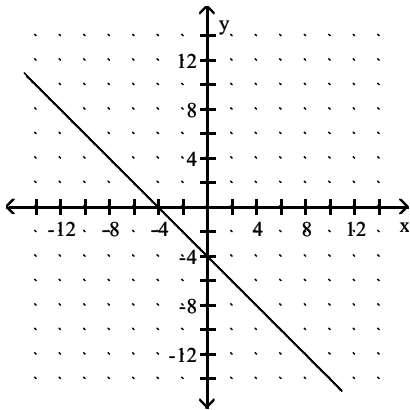
96) $g(x) = x - 4$

96) _____



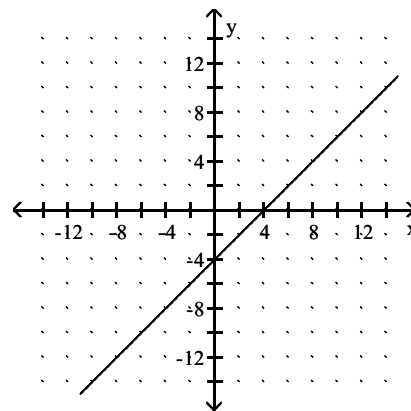
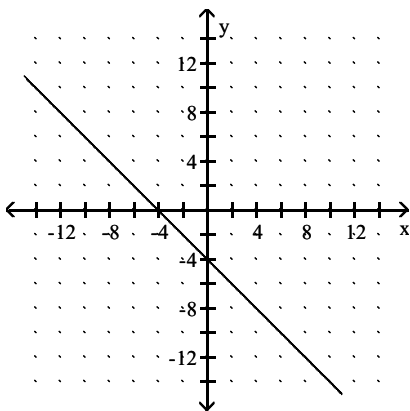
A) $D = (-\infty, \infty)$
 $R = (-\infty, \infty)$

B) $D = (-\infty, \infty)$
 $R = [-4, \infty)$



C) $D = (-\infty, \infty)$
 $R = [-4, \infty)$

D) $D = (-\infty, \infty)$
 $R = (-\infty, \infty)$



Answer: D

Objective: (9.3) Graph Function

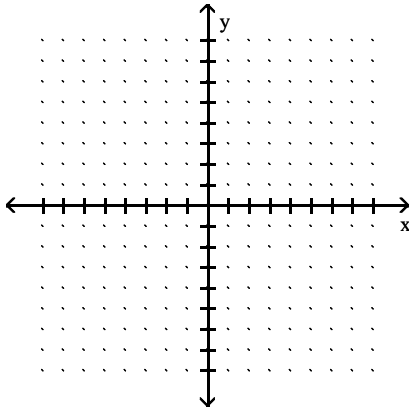
ALVAREZLAB BEN1003...BEN1006

INTERACTMATH SEC 9.3 EXE 15

ALVAREZ--VIDEO 78 fin096

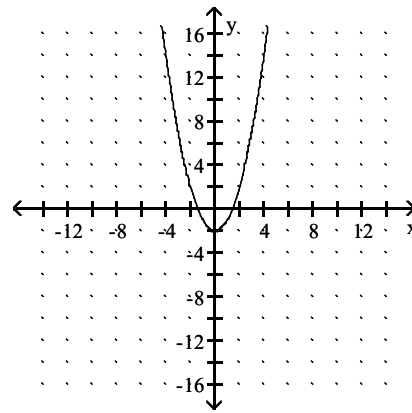
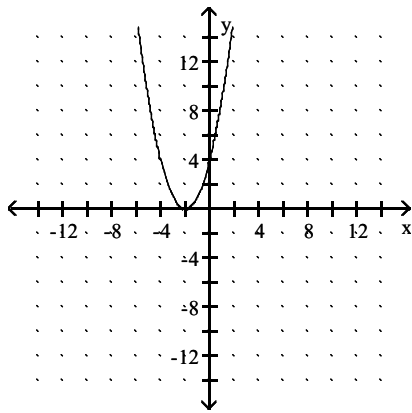
97) $h(x) = x^2 - 2$

97) _____



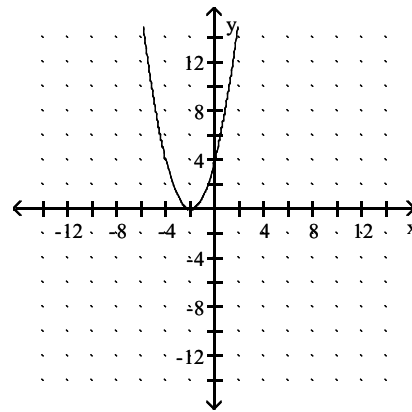
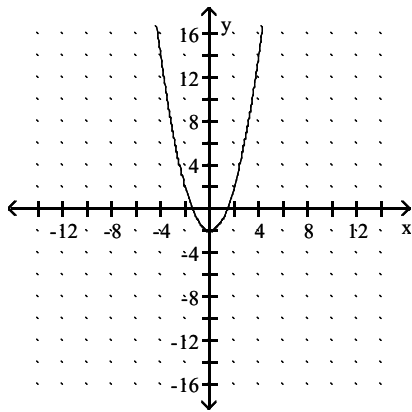
A) $D = (-\infty, \infty)$
 $R = [0, \infty)$

B) $D = (-\infty, \infty)$
 $R = (-\infty, \infty)$



C) $D = (-\infty, \infty)$
 $R = [-2, \infty)$

D) $D = [-2, \infty)$
 $R = [0, \infty)$



Answer: C

Objective: (9.3) Graph Function

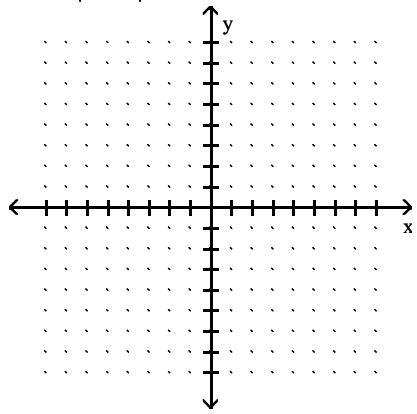
ALVAREZLAB BEN2001...BEN2010

INTERACTMATH SEC 9.3 EXE 29

ALVAREZ-- VIDEO 79 fin097

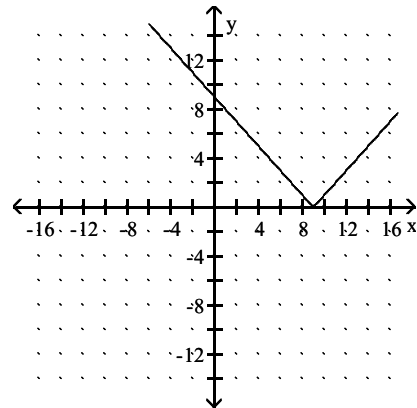
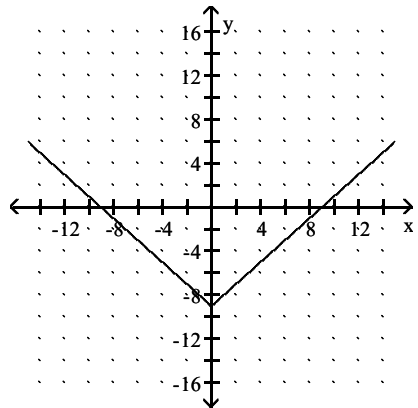
98) $f(x) = |x - 9|$

98) _____



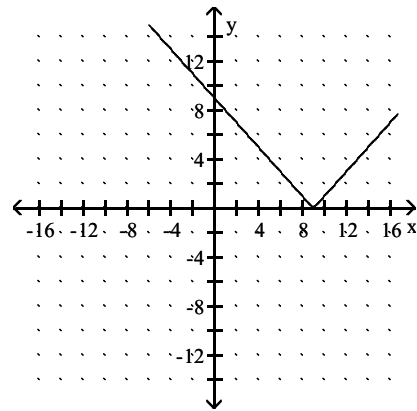
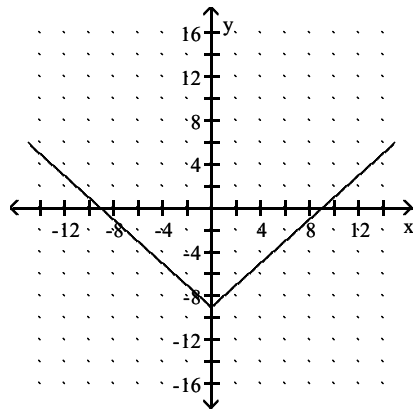
A) $D = [-9, \infty)$
 $R = (-\infty, \infty)$

B) $D = (-\infty, \infty)$
 $R = [0, \infty)$



C) $D = (-\infty, \infty)$
 $R = [-9, \infty)$

D) $D = [-9, \infty)$
 $R = [0, \infty)$



Answer: B

Objective: (9.3) Graph Function

ALVAREZLAB BEN205..BEN208

INTERACTMATH SEC 9.3 EXE 32

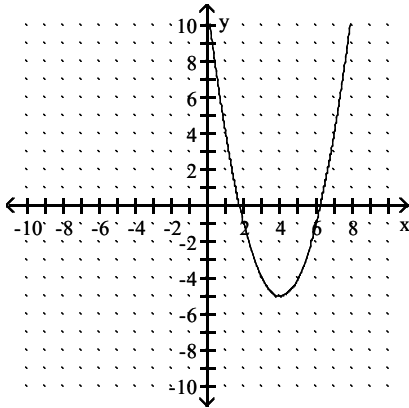
ALVAREZ-- VIDEO 80 fin098

Match the function with the appropriate graph of the transformation of the function $g(x) = x^2$.

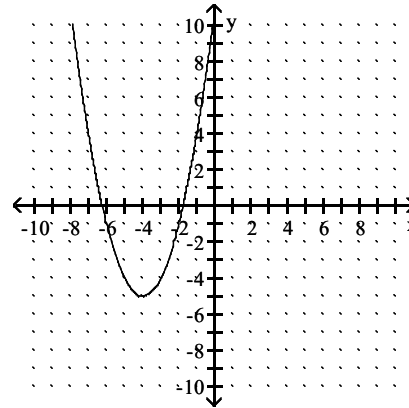
99) $f(x) = (x + 4)^2 - 5$

99) _____

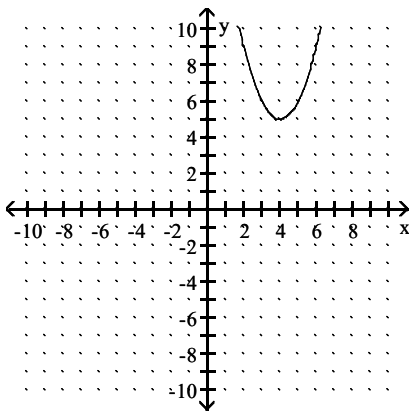
A)



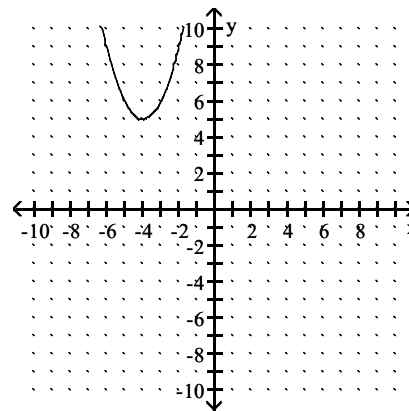
B)



C)



D)



Answer: B

Objective: (9.4) Match Function to Its Graph

ALVAREZLAB GVERTD01...04 GVERTE01...04 BEN101..122

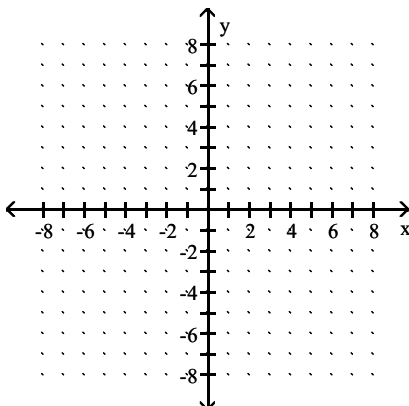
INTERACTMATH SEC 9.4 EXE 11

ALVAREZ-- VIDEO 81 fin099

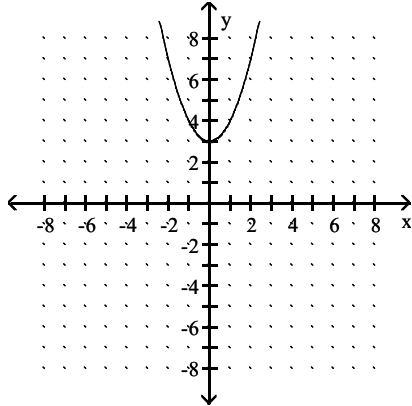
Using transformations and/or reflections and one of the basic graphs, state the transformation and/or reflection and sketch the function.

100) $g(x) = (x - 3)^2$

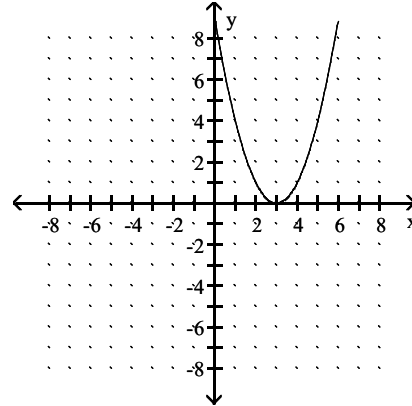
100) _____



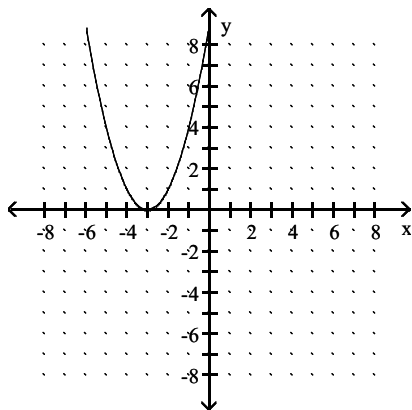
A) This is the graph of $f(x) = x^2$ shifted up 3 units.



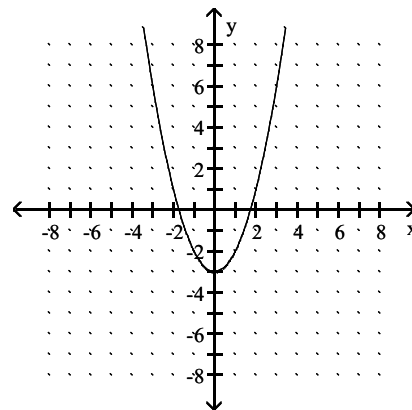
B) This is the graph of $f(x) = x^2$ shifted to the right 3 units.



C) This is the graph of $f(x) = x^2$ shifted to the left 3 units.



D) This is the graph of $f(x) = x^2$ shifted down 3 units.



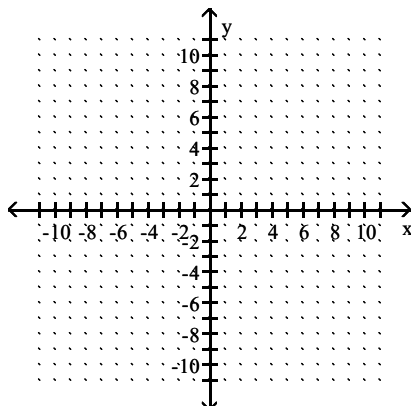
Answer: B

Objective: (9.4) Use Transformations to Graph Function

ALVAREZLAB GVERTD01...04 BEN105 BEN108 BEN111 BEN114
INTERACTMATH SEC 9.4 EXE 14

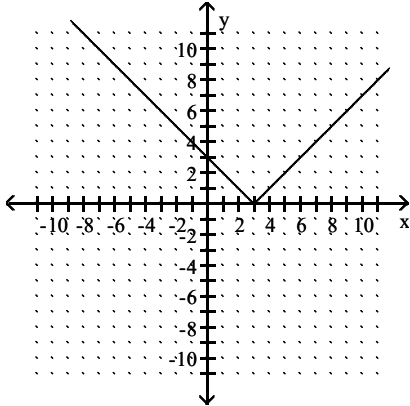
ALVAREZ--VIDEO 82 fin100

101) $f(x) = |x + 3|$

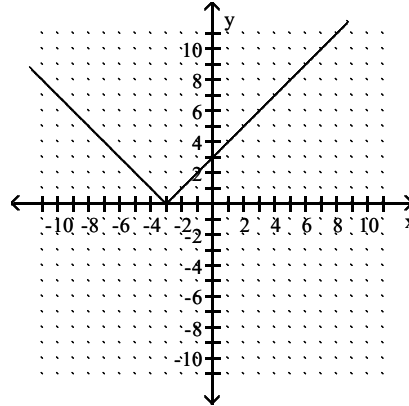


101) _____

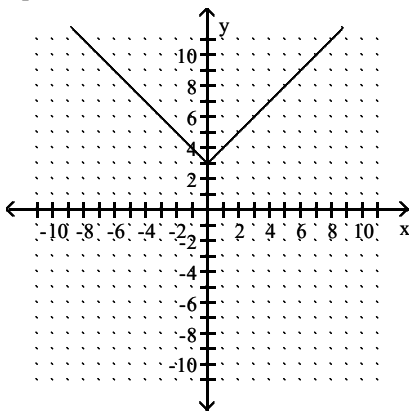
A) This is the graph of $f(x) = |x|$ shifted to the right 3 units.



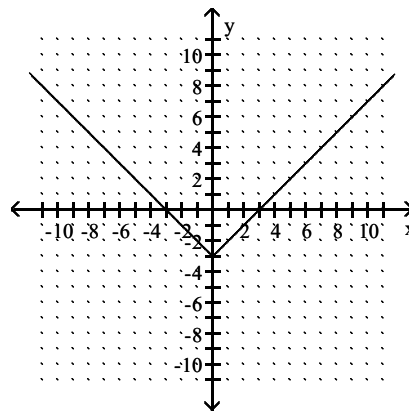
B) This is the graph of $f(x) = |x|$ shifted to the left 3 units.



C) This is the graph of $f(x) = |x|$ shifted up 3 units.



D) This is the graph of $f(x) = |x|$ shifted down 3 units.



Answer: B

Objective: (9.4) Use Transformations to Graph Function

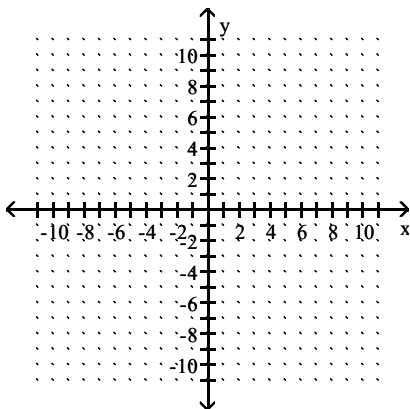
ALVAREZLAB BEN205..BEN208

INTERACTMATH SEC 9.4 EXE 19

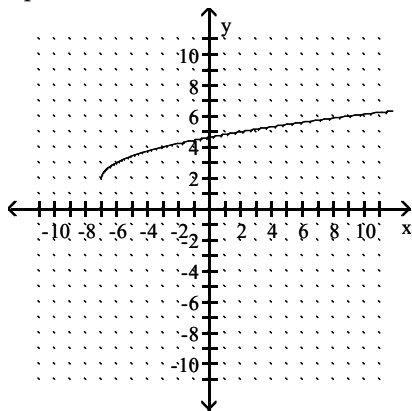
ALVAREZ-- VIDEO 83 fin101

102) $f(x) = \sqrt{x + 2} - 7$

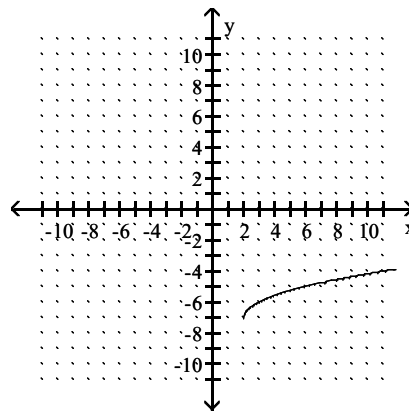
102) _____



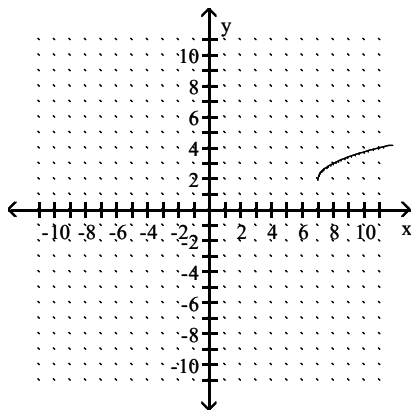
A) This is the graph of $f(x) = \sqrt{x}$ shifted 7 units to the left and then shifted up 2 units.



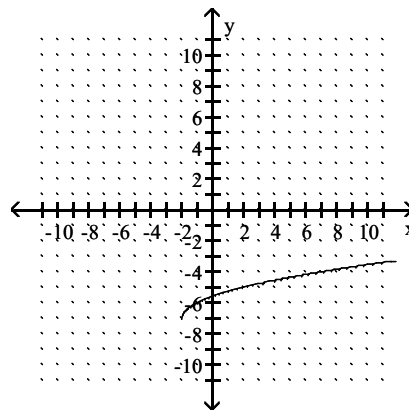
B) This is the graph of $f(x) = \sqrt{x}$ shifted to the right 2 units and then shifted down 7 units.



C) This is the graph of $f(x) = \sqrt{x}$ shifted 7 units to the right and then shifted up 2 units.



D) This is the graph of $f(x) = \sqrt{x}$ shifted to the left 2 units and then shifted down 7 units.



Answer: D

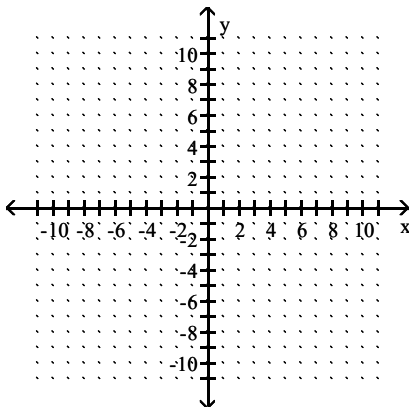
Objective: (9.4) Use Transformations to Graph Function

ALVAREZLAB BEN401..BEN410

INTERACTMATH SEC 9.4 EXE 29

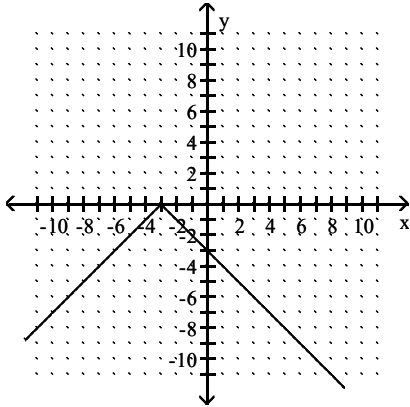
ALVAREZ-- VIDEO 84 fin102

103) $g(x) = -|x| - 3$

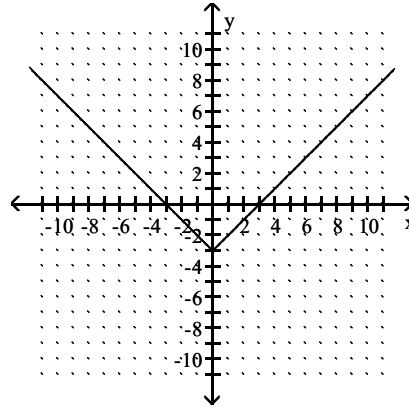


103) _____

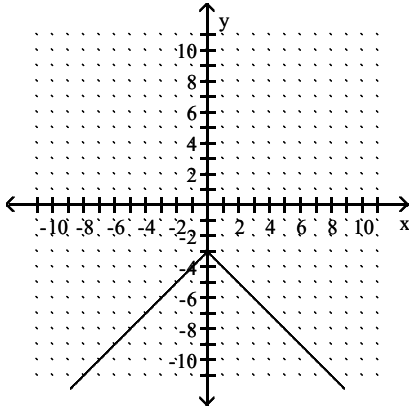
A) This is the graph of $f(x) = |x|$ shifted left 3 units and then reflected about the x-axis.



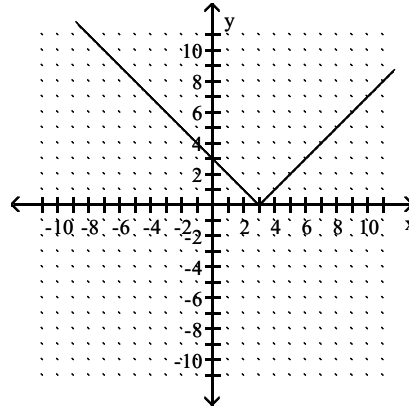
B) This is the graph of $f(x) = |x|$ reflected about the y-axis and then shifted down 3 units.



C) This is the graph of $f(x) = |x|$ reflected about the x-axis and then shifted down 3 units.



D) This is the graph of $f(x) = |x|$ shifted left 3 units and then reflected about the y-axis.



Answer: C

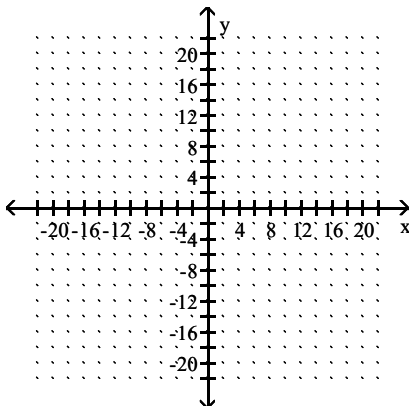
Objective: (9.4) Use Transformations and Reflections to Graph Function

ALVAREZLAB BEN201..BEN204

INTERACTMATH SEC 9.4 EXE 25

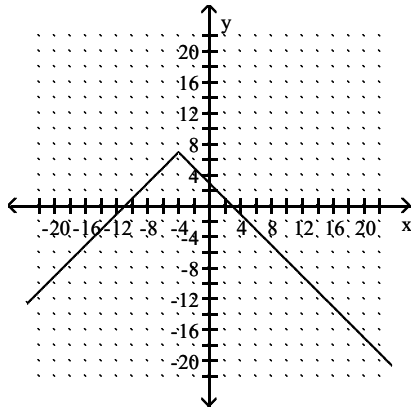
ALVAREZ-- VIDEO 85 fin103

104) $g(x) = 7 - |x - 4|$

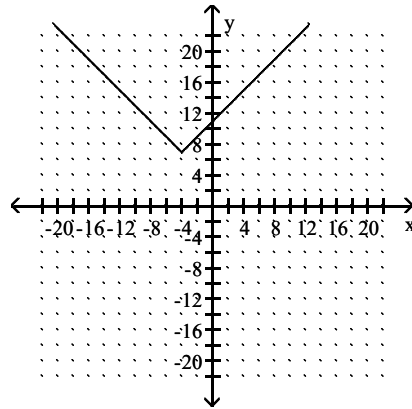


104) _____

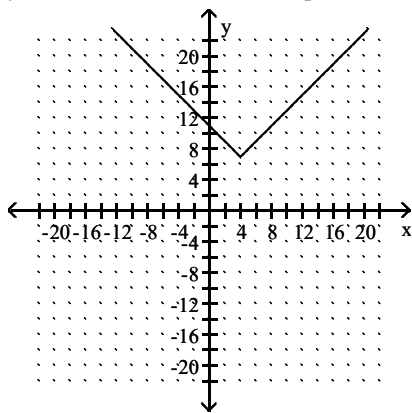
A) This is the graph of $f(x) = |x|$ shifted to the left 4 units, reflected about the x -axis, and then shifted up 7 units.



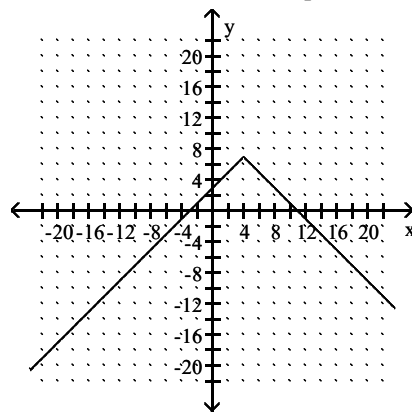
B) This is the graph of $f(x) = |x|$ shifted to the right 4 units, reflected about the y -axis, and then shifted up 7 units.



C) This is the graph of $f(x) = |x|$ shifted to the left 4 units, reflected about the y -axis, and then shifted up 7 units.



D) This is the graph of $f(x) = |x|$ shifted to the right 4 units, reflected about the x -axis, and then shifted up 7 units.



Answer: D

Objective: (9.4) Use Transformations and Reflections to Graph Function

ALVAREZLAB BEN209..BEN222

INTERACTMATH SEC 9.4 EXE 47

ALVAREZ-- VIDEO 86 fin104

Perform the indicated operations and write the answer in the standard form $a + bi$.

105) $(-7 - 8i) + (13 + 5i)$

A) $6 - 3i$

B) $13 + 3i$

C) $6 + 3i$

D) $13 - 3i$

105) _____

Answer: A

Objective: (10.1) Add or Subtract Complex Numbers

ALVAREZLAB GCOMPL01...04

COMPLEX1 (1,2,3) INTERACTMATH SEC 10.1 EXE 21

ALVAREZ--VIDEO 87 fin105

106) $(4 - 8i)(9 + 3i)$

A) $60 - 60i$

B) $-24i^2 - 60i + 36$

C) $60 + 60i$

D) $12 - 60i$

106) _____

Answer: A

Objective: (10.1) Multiply or Divide Complex Numbers

ALVAREZLAB **GCOMPL05...12**

COMPLEX (1,4,5,6,7,8) INTERACTMATH SEC 10.1 EXE 41

ALVAREZ--VIDEO 88 fin106

107) $\frac{5 - i}{-9 + 4i}$

A) $\frac{1}{97} - \frac{11}{97}i$

B) $-\frac{11}{97}i$

C) $\frac{49}{97} - \frac{11}{97}i$

D) $-\frac{49}{97} - \frac{11}{97}i$

107) _____

Answer: D

Objective: (10.1) Multiply or Divide Complex Numbers

ALVAREZLAB **GCOMPL13...16**

COMPLEX2 (7,8,9,10) INTERACTMATH SEC 10.1 EXE 55

ALVAREZ-- VIDEO 89 fin107

Solve using the Zero Factor Property.

108) $(x - 3)(8x - 3) = 0$

A) $\left\{-\frac{8}{3}, -\frac{1}{3}\right\}$

B) $\left\{\frac{3}{8}, 3\right\}$

C) $\left\{-3, -\frac{3}{8}\right\}$

D) $\left\{\frac{1}{3}, \frac{8}{3}\right\}$

108) _____

Answer: B

Objective: (10.2) Solve Using Zero Factor Property

ALVAREZLAB **GQUADM01..18 GQUADN01..72 GQUADF01..22**

QUADFAE1 (1...18) INTERACTMATH SEC 10.2 EXE 9

ALVAREZ--VIDEO 90 fin108

109) $7x^2 + 19x - 6 = 0$

A) $\left\{-3, \frac{2}{7}\right\}$

B) $\left\{-\frac{1}{3}, \frac{7}{2}\right\}$

C) $\left\{-\frac{2}{7}, 3\right\}$

D) $\left\{-\frac{7}{2}, \frac{1}{3}\right\}$

109) _____

Answer: A

Objective: (10.2) Solve Using Zero Factor Property

ALVAREZLAB **GQUADN01..72 GQUADF01..22**

QUADFACT (1,2) QUADFAXX(1,2,3,4) INTERACTMATH SEC 10.2 EXE 15

ALVAREZ-- VIDEO 91 fin109

Solve using the Square Root Property.

110) $(x - 6)^2 = 16$

A) {22}

B) {2, -10}

C) {4, -4}

D) {10, 2}

110) _____

Answer: D

Objective: (10.2) Solve Using Square Root Property

ALVAREZLAB **GQUADS01..04**

QUADROOT (8,9,10,11) INTERACTMATH SEC 10.2 EXE 29

ALVAREZ--VIDEO 92 fin110

Solve by completing the square.

111) $x^2 - 12x + 32 = 0$

A) $\{\sqrt{2}, -1\}$

B) {28, 4}

C) {8, 4}

D) {-8, -4}

111) _____

Answer: C

Objective: (10.2) Solve by Completing the Square

ALVAREZLAB **GQUADR01..02**

QUADCOMP (1,2,10) INTERACTMATH SEC 10.2 EXE 53

ALVAREZ-- VIDEO 93 fin111

112) $x^2 - 6x + 18 = 0$

A) $\{3 - 9i, 3 + 9i\}$

B) $\{3 - 3i, 3 + 3i\}$

C) {0, 6}

D) $\{3 + 3i\}$

112) _____

Answer: B

Objective: (10.2) Solve by Completing the Square

ALVAREZLAB **GQUADC01..08**

QUADCOMP (11,12) INTERACTMATH SEC 10.2 EXE 55

ALVAREZ-- VIDEO 94 fin112

Solve using the Quadratic Formula.

113) $5x^2 + 8x = 4$

A) $\left\{\frac{5}{2}, 2\right\}$

B) $\left\{-\frac{8}{5}, 0\right\}$

C) $\left\{0, \frac{8}{5}\right\}$

D) $\left\{-2, \frac{2}{5}\right\}$

113) _____

Answer: D

Objective: (10.3) Solve Using Quadratic Formula

ALVAREZLAB **GQUADR01..02** **GQUADF11..14**

QUADFORK (1,2,3,4) INTERACTMATH SEC 10.3 EXE 11

ALVAREZ-- VIDEO 95 fin113

114) $4x^2 - 3x + 1 = 0$

A) $\left\{-\frac{3}{8} - \frac{\sqrt{7}}{8}i, -\frac{3}{8} + \frac{\sqrt{7}}{8}i\right\}$
 C) $\left\{\frac{3 - \sqrt{7}}{8}, \frac{3 + \sqrt{7}}{8}\right\}$

B) $\left\{\frac{3 - \sqrt{7}}{4}, \frac{3 + \sqrt{7}}{4}\right\}$
 D) $\left\{\frac{3}{8} - \frac{\sqrt{7}}{8}i, \frac{3}{8} + \frac{\sqrt{7}}{8}i\right\}$

114) _____

Answer: D

Objective: (10.3) Solve Using Quadratic Formula

ALVAREZLAB **GQUADC01.16**

QUADFORK (11,12) QUADPLEX (1,2,11,12)

INTERACTMATH SEC 10.3 EXE 17

ALVAREZ-- VIDEO 96 fin114

Solve the nonlinear equation.

115) $x^4 + 12x^2 - 64 = 0$

A) $\{-4, 4, -16i, 16i\}$

B) $\{-2, 2, -4, 4\}$

C) $\{-2, 2, -4i, 4i\}$

D) $\{-4, 4, -2i, 2i\}$

115) _____

Answer: C

Objective: (10.4) Solve Nonlinear Equation

ALVAREZLAB QUADHIGR (12)

INTERACTMATH SEC 10.4 EXE 5

ALVAREZ VIDEO 97 fin115

116) $(4x - 4)^2 - 6(4x - 4) - 7 = 0$

A) $\left\{-\frac{11}{4}, -\frac{3}{4}\right\}$

B) $\left\{\frac{3}{4}, -\frac{5}{4}\right\}$

C) $\left\{-\frac{3}{4}, \frac{5}{4}\right\}$

D) $\left\{\frac{11}{4}, \frac{3}{4}\right\}$

116) _____

Answer: D

Objective: (10.4) Solve Nonlinear Equation

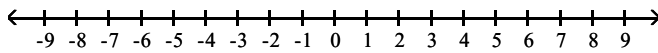
ALVAREZLAB QUADHIGR (14) INTERACTMATH SEC 10.4 EXE 11

ALVAREZ VIDEO 98 fin116

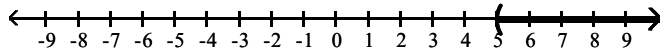
Solve. Graph the solution on the real number line and state the solution using interval notation.

117) $(x + 2)(x - 5) < 0$

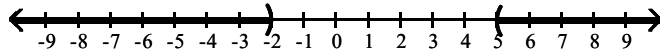
117) _____



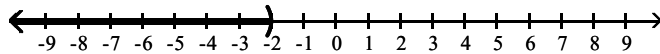
A) $(5, \infty)$



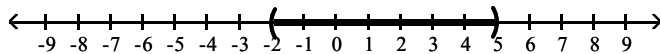
B) $(-\infty, -2) \cup (5, \infty)$



C) $(-\infty, -2)$



D) $(-2, 5)$



Answer: D

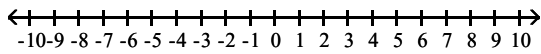
Objective: (10.5) Solve and Graph Quadratic Inequality

ALVAREZLAB QLARINE1 (2) INTERACTMATH SEC 10.5 EXE

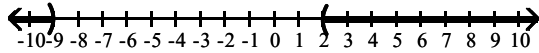
ALVAREZ VIDEO 99 fin117

118) $\frac{x-2}{x+9} > 0$

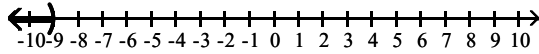
118) _____



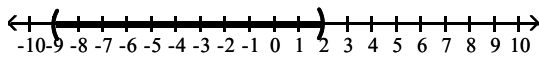
A) $(-\infty, -9) \cup (2, \infty)$



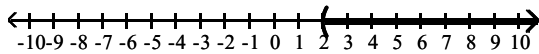
B) $(-\infty, -9)$



C) $(-9, 2)$



D) $(2, \infty)$



Answer: A

Objective: (10.5) Solve and Graph Rational Inequality

ALVAREZLAB QLARINE1 (5) INTERACTMATH SEC 10.5 EXE

ALVAREZ VIDEO 100 fin118