

Name _____ math0320yes

website **www.alvarezmathhelp.com**

PROGRAMS ALVAREZLAB (SAVE AND EXTRACT TO YOUR COMPUTER xp only)

VIDEOS (ON DEMAND)

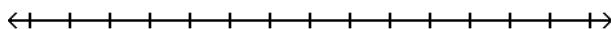
INTERACTMATH (MCKENNA AND KIRK BEGINNING AND INTERMEDIATE ALG)

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

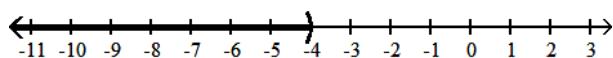
Solve the linear inequality and graph the solution set. State the solution using interval notation.

1) $5x > -20$

1) _____



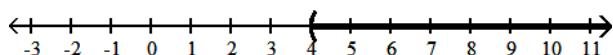
A) $(-\infty, -4)$



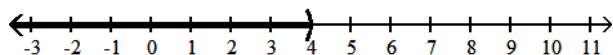
B) $(-4, \infty)$



C) $(4, \infty)$



D) $(-\infty, 4)$



Answer: B

Objective: (2.4) Solve and Graph Linear Inequality

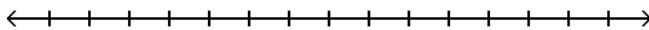
ALVAREZLAB GNUMLY01...20 41...48 51...54

LINEINE1 (1,3) INTERACTMATH SEC 2.4 EXE 21

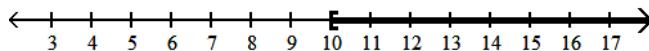
ALVAREZ-- VIDEO 1

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

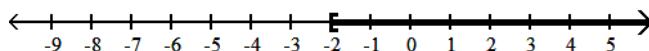
2) _____



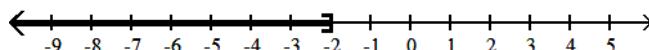
A) $[10, \infty)$



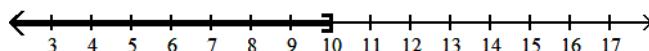
B) $[-2, \infty)$



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

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

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

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

5) _____

A) $(3, 7]$

B) $[3, 7]$

C) $(-7, -3]$

D) $[-7, -3)$

Answer: A

Objective: (2.5) Solve Double Inequality

ALVAREZLAB LINEINEQ (18) INTERACTMATH SEC 2.5 EXE 59

ALVAREZ VIDEO 5

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

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

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)

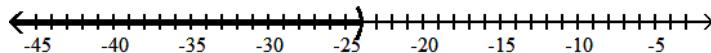
ALVAREZLAB ABSOLEQX (1,2) INTERACTMATH SEC 2.6 EXE 47

ALVAREZ VIDEO 8

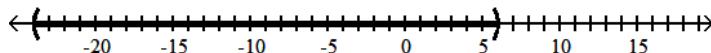
Solve the absolute value inequality. Graph the solution set, then write the answer using interval notation.

9) $|x + 9| < 15$

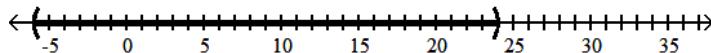
A) $(-\infty, -24)$



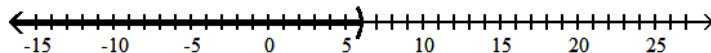
B) $(-24, 6)$



C) $(-6, 24)$



D) $(-\infty, 6)$



9)

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

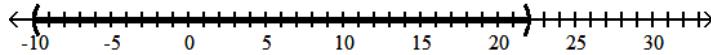
ALVAREZ-- VIDEO 9

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

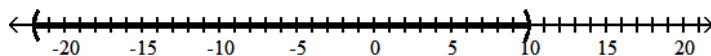
10) $|x + 6| > 16$

10) _____

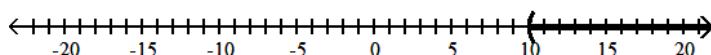
- A) $(-10, 22)$



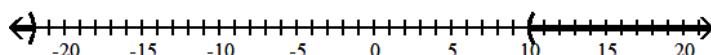
- B) $(-22, 10)$



- 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)

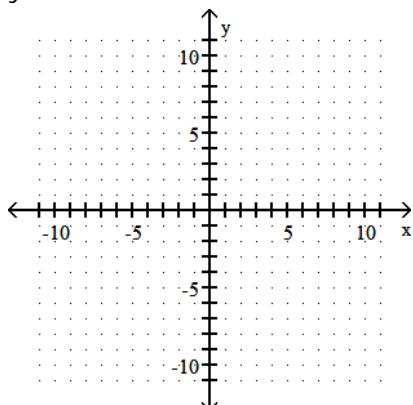
INTERACTMATH SEC 2.6 EXE 73

ALVAREZ--VIDEO 10

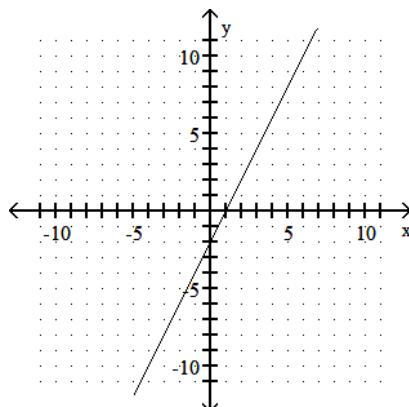
Graph the solutions to the linear equation by plotting points.

11) $y = 2x - 2$

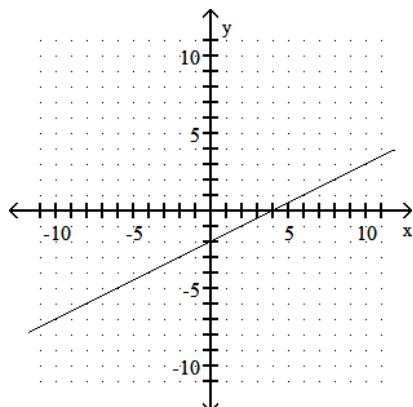
11) _____



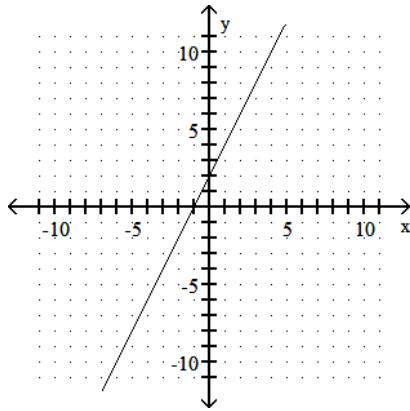
A)



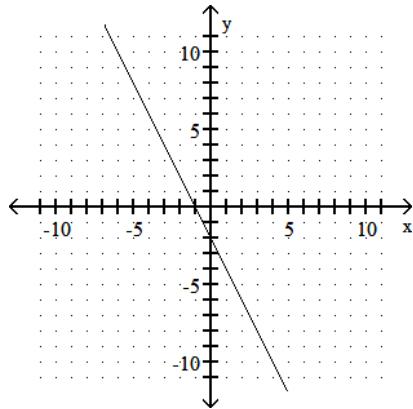
B)



C)



D)



Answer: A

Objective: (3.1) Graph Linear Equation by Plotting Points

ALVAREZLAB BEN1003...BEN1010

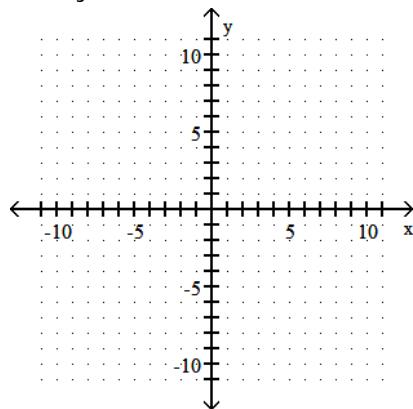
INTERACTMATH SEC 3.1 EXE 51

ALVAREZ- VIDEO 11

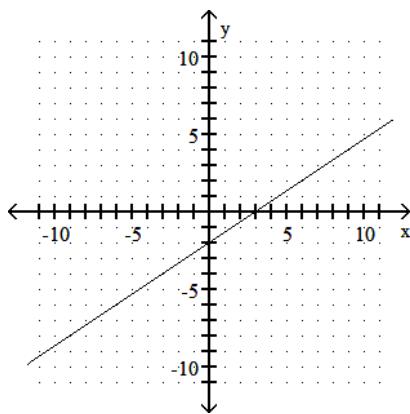
Use the intercept method to graph the solutions of the linear equation.

12) $2x - 3y = 6$

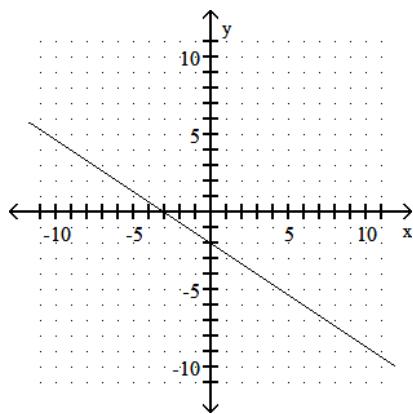
12) _____



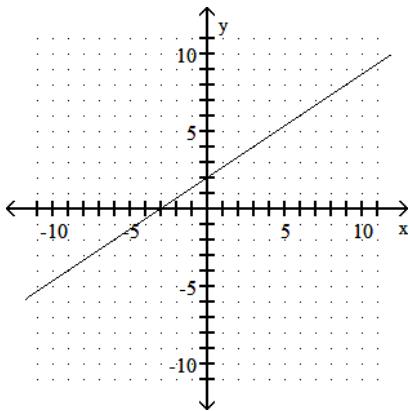
A)



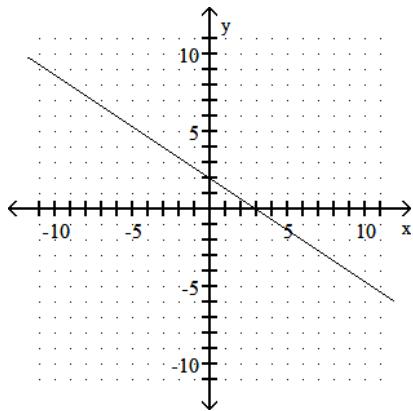
B)



C)



D)



Answer: A

Objective: (3.2) Graph Linear Equation Using Intercept Method

ALVAREZLAB BEN1028 GTASPT52...GTASPT55

GTASPT62...GTASPT65 GTASPT72...GTASPT75

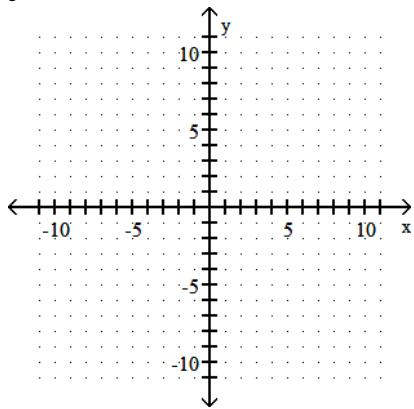
LINEXYI1 (3,4)

INTERACTMATH SEC 3.2 EXE 9

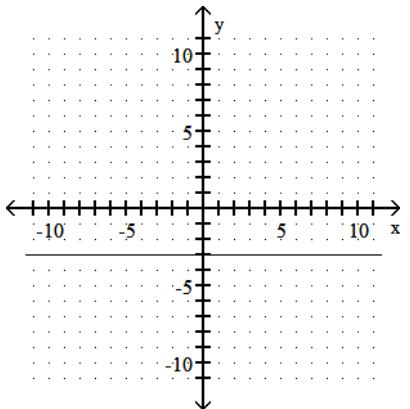
ALVAREZ-- VIDEO 12

13) $y = -3$

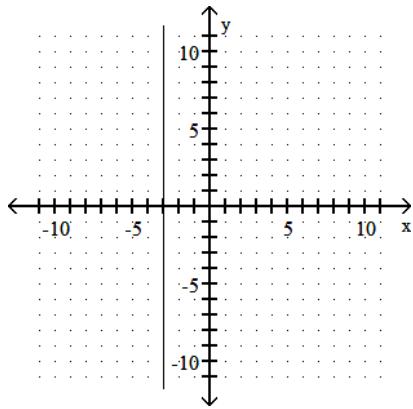
13) _____



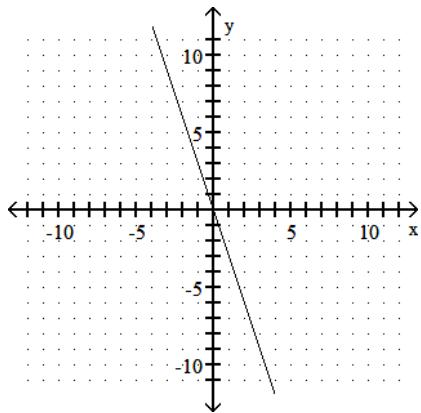
A)



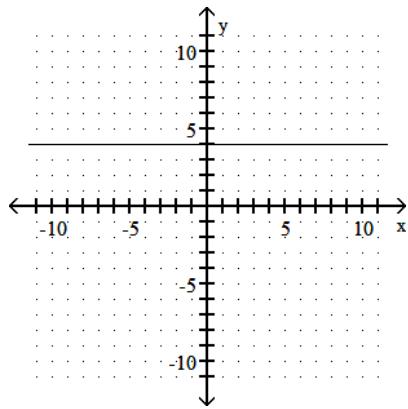
B)



C)



D)



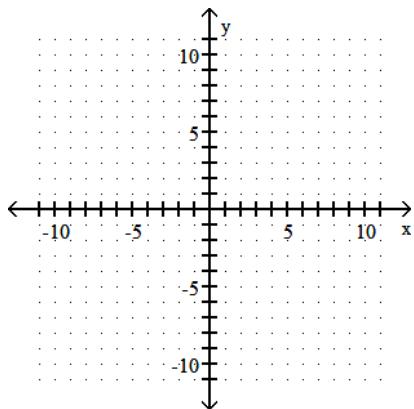
Answer: A

Objective: (3.2) Graph Horizontal and Vertical Lines

ALVAREZLAB BEN1011...BEN1012

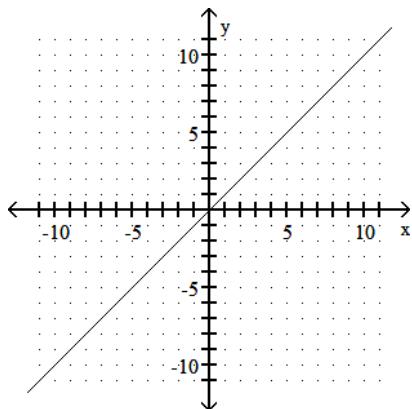
INTERACTMATH SEC 3.2 EXE 35

ALVAREZ VIDEO 13

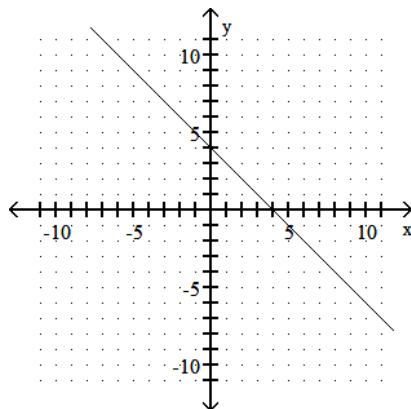
14) $x = 4$ 

14) _____

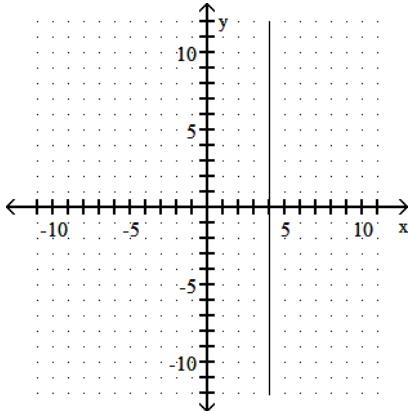
A)



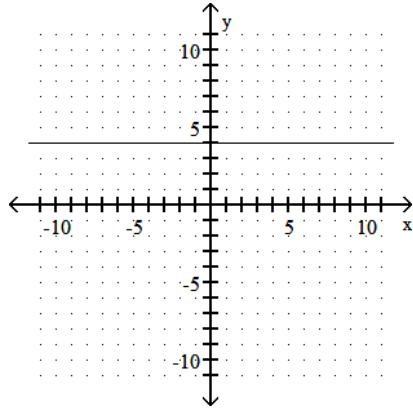
B)



C)



D)



Answer: C

Objective: (3.2) Graph Horizontal and Vertical Lines

ALVAREZLAB BEN1013

INTERACTMATH SEC 3.2 EXE 29

ALVAREZ- VIDEO 14

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

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

15) _____

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

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

C) $m = -12$

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

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

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

16) _____

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

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

C) undefined

D) $m = 8$

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

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

17) _____

A) $m = 1$

B) $m = 2$

C) $m = 0$

D) $m = 11$

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

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) $y = 4x - 5$ 18) _____

- A) $m = -5, (0, 4)$ B) $m = 4, (0, 5)$ C) $m = 5, (0, 4)$ D) $m = 4, (0, -5)$

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

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

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

- A) $x = 3y + 15$ B) $y = 3x + 15$ C) $y = 3x - 15$ D) $x = 3y - 15$

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

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

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

- A) $y = -10x - 2$ B) $y = -10x + 2$ C) $y = -2x - 10$ D) $y = 2x - 10$

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

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

21) $y = 6x - 8$ 21) _____

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

- 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

22) $y = 9x - 6$ 22) _____

$$y = 9x + 4$$

- 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

23) $y = 5x - 4$

$y = -5x - 8$

A) perpendicular

B) neither

C) parallel

23) _____

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

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

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)

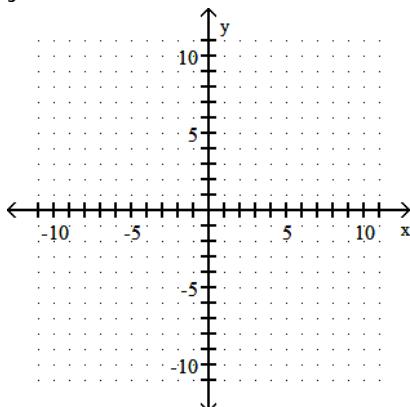
INTERACTMATH 3.4 EXE 51

ALVAREZ VIDEO 25

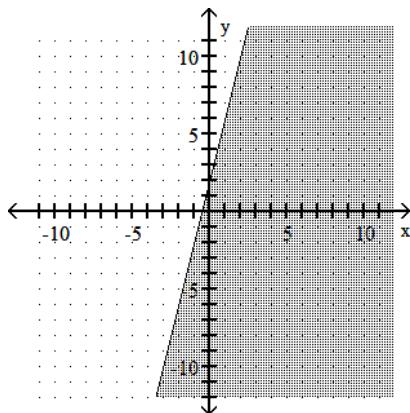
Graph the linear inequality in two variables on the coordinate plane.

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

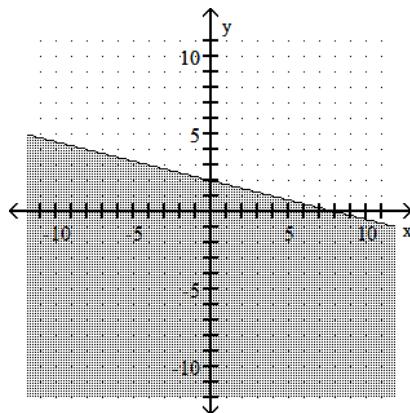
26) _____



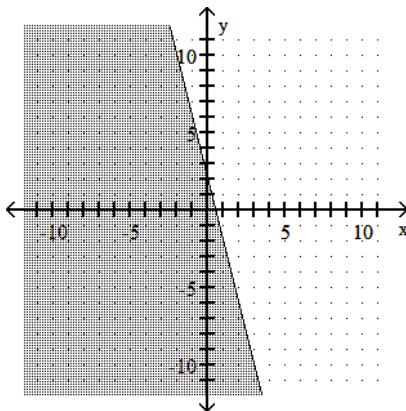
A)



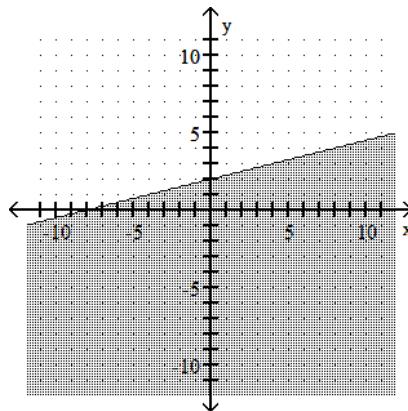
B)



C)



D)



Answer: C

Objective: (3.5) Graph Linear Inequality

ALVAREZLAB GTASH01 GTASH02

INTERACTMATH SEC 3.5 EXE 7

ALVAREZ VIDEO 26

Determine whether the relation represents a function.

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

27) _____

A) function

B) not a function

Answer: A

Objective: (3.6) Determine if Relation Represents Function

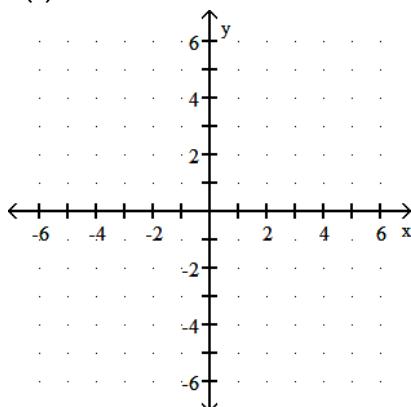
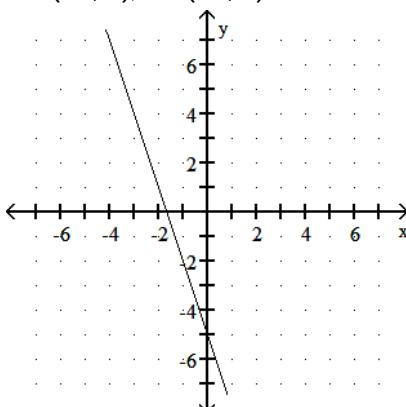
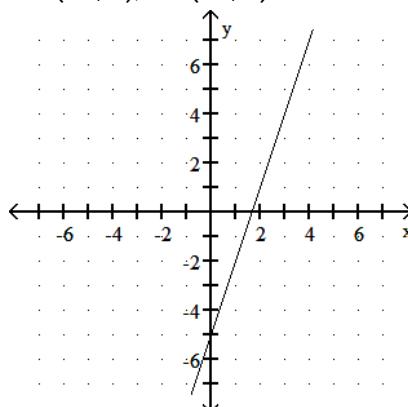
ALVAREZLAB FUNCTREL (3,7,8,9,10,11,12) INTERACTMATH 3.6 EXE 17

ALVAREZ VIDEO 27

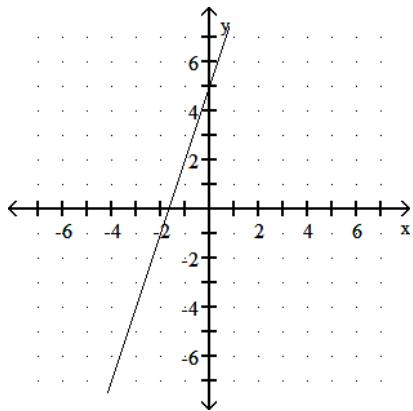
Graph the linear function. State the domain and range of the function using interval notation.

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

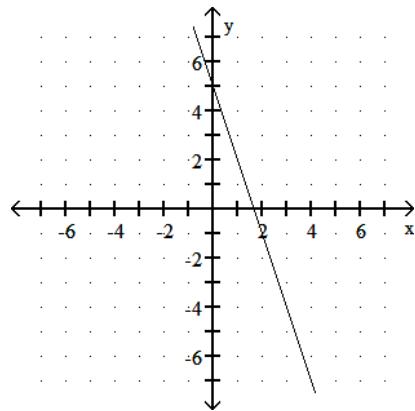
28) _____

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

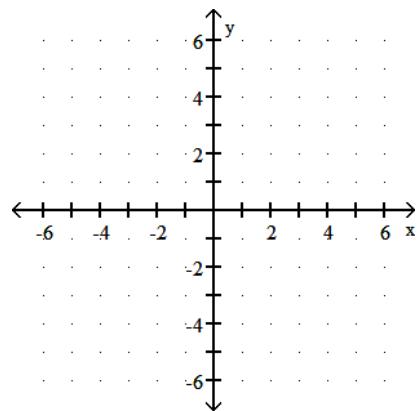
ALVAREZLAB BEN1007...BEN1010

INTERACTMATH SEC 3.6 EXE 29

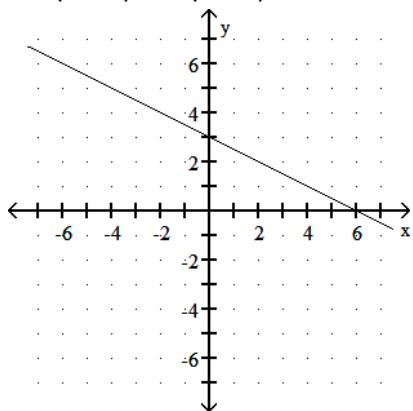
ALVAREZ- VIDEO 28

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

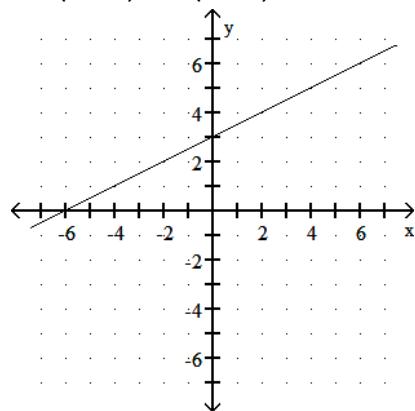
29) _____



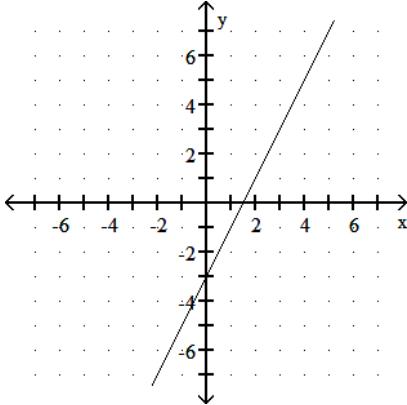
A) $D = (-\infty, \infty); R = (-\infty, \infty)$



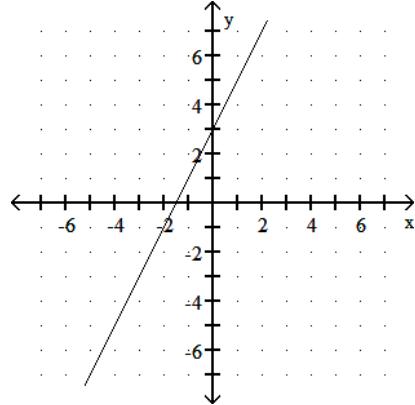
B) $D = (-\infty, \infty); R = (-\infty, \infty)$



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

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

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

32) $g(x) = 8x + 3, g(a)$

A) $(a, 8a + 3)$

B) $(a, 24a)$

C) $(a, 11a)$

D) $(a, 11)$

32) _____

Answer: A

Objective: (3.6) Evaluate Function

ALVAREZLAB FUNCTVA1 (1...14)

INTERACTMATH SEC 3.6 EXE 41

ALVAREZ VIDEO 32

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

A) $(-4, 2)$

B) $(-4, 62)$

C) $(-4, 66)$

D) $(-4, 98)$

33) _____

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

34) $h(x) = 3x^2 + 4x + 5$; $h(k)$ 34) _____

- A) $(k, 3k^2 + 4k + 5)$
 C) $(k, 3k^2 + 16k + 5)$
 B) $(k, 9k^2 + 16k + 25)$
 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

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

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

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

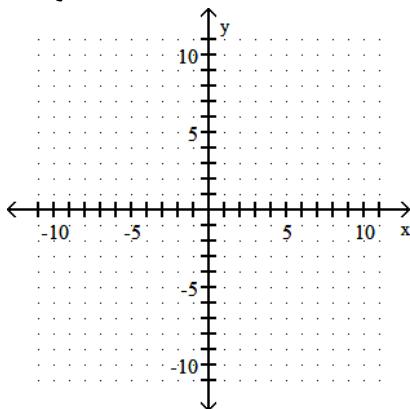
FUNCTP02 (13,14)

INTERACTMATH SEC 3.6 EXE 46

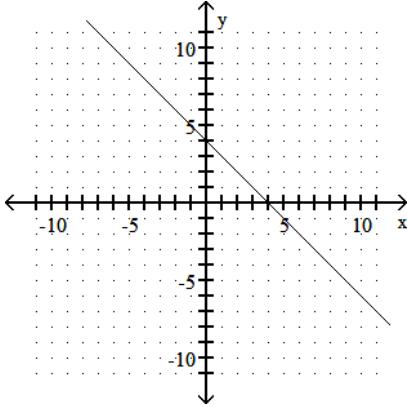
ALVAREZ--VIDEO 37

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."

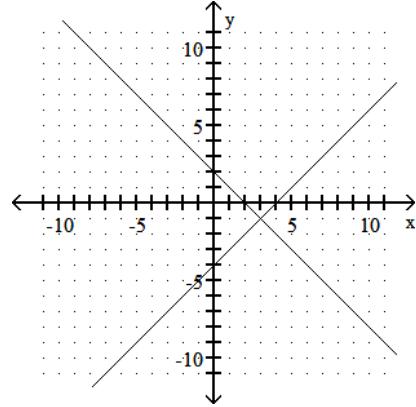
38) $\begin{cases} L_1: x + y = 4 \\ L_2: x - y = 2 \end{cases}$ 38) _____



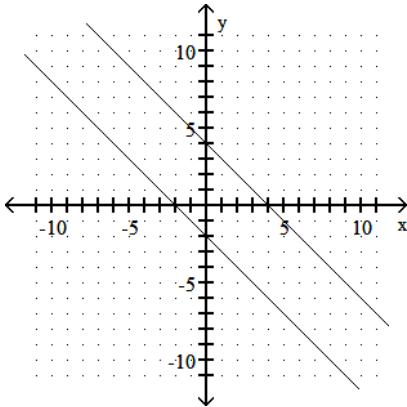
A) infinitely many solutions



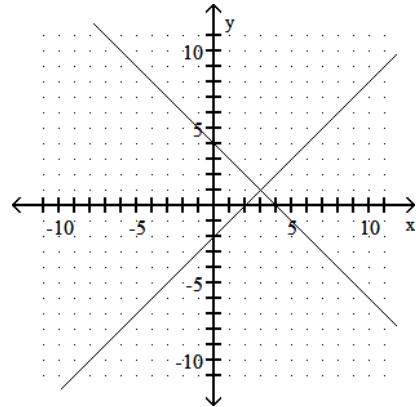
B) $\{(3, -1)\}$



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

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

39) _____

Answer: D

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

ALVAREZLAB GSYSTS01..08,11,12 GSYSTE01..14 GSYSTE20..28

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

INTERACTMATH SEC 4.2 EXE 9

ALVAREZ-- VIDEO 39

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

A) {} B) {(1, -1)}
 C) {(x, y) | 6x + 9y = 2} D) {(-1, 2)}

Answer: A

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

ALVAREZLAB GSYSTS01..08,11,12 GSYSTE01..14 GSYSTE20..28

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

INTERACTMATH SEC 4.2 EXE 13

ALVAREZ-- VIDEO 40

Solve the system of linear equations using the Elimination Method.

41)
$$\begin{cases} x - y = 7 \\ x + y = 5 \end{cases}$$

A) {(-6, -13)} B) {(6, -1)}
 C) {(x, y) | x - y = 7} D) {}

Answer: B

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

ALVAREZLAB GSYSTE01..14 GSYSTE20...28 GSYSTS01..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

42)
$$\begin{cases} 4x + 3y = 8 \\ 5x + 4y = 11 \end{cases}$$

A) {(x, y) | 4x + 3y = 8} B) {(5, -4)}
 C) {(-1, 4)} D) {}

Answer: C

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

ALVAREZLAB GSYSTE01..14 GSYSTE20...28 GSYSTS01..08,11,12

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

INTERACTMATH SEC 4.3 EXE 13

ALVAREZ-- VIDEO 42

Factor out the GCF using the Distributive Property.

43) $5a^6 + 20a^4$

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

Factor by grouping.

44) $x^2 + 7x + xy + 7y$

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

45) $ty - 7y - 9t + 63$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Simplify using the product rule for radicals.

$$60) \sqrt{75}$$

60) _____

- A) $3\sqrt{5}$ B) 8 C) 15 D) $5\sqrt{3}$

Answer: D

Objective: (8.1) Simplify Using Product Rule

ALVAREZLAB GRADSU02 GRADRU01..04

RADICALR (1,2) INTERACTMATH SEC 8.1 EX27

ALVAREZ-- VIDEO 45

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

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

61) _____

- A) $13x^3z^4\sqrt{yz}$ B) $6.5x^3yz^4$ C) $6.5x^3z^4\sqrt{xyz}$ D) $13x^4z^7\sqrt{y}$

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

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

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

62) _____

- A) $14\sqrt{5}$ B) $-14\sqrt{5}$ C) $-2\sqrt{5}$ D) $11\sqrt{5}$

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

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

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

63) _____

- A) $2x^4\sqrt{3x}$ B) $3x^2\sqrt{2x}$ C) $6x^2\sqrt{x}$ D) $3x^4\sqrt{2x}$

Answer: B

Objective: (8.2) Multiply Square Roots

ALVAREZLAB GRADRU01..04

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

ALVAREZ-- VIDEO 48

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

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

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

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

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

67) _____

A) {}

B) {-2}

C) {3}

D) {-2, 3}

Answer: C

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

ALVAREZLAB GRADIC01..08

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

ALVAREZ-- VIDEO 52

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

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

68) _____

A) 25

B) 6

C) 5

D) 10

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

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

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

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

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

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

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

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

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

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

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

73) _____

Answer: C

Objective: (8.5) Perform Indicated Operations

ALVAREZLAB GRADSU01..18

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

ALVAREZ-- VIDEO 57

Evaluate.

74) $100^{1/2}$

A) 40

B) 10

C) 20

D) 5

74)

Answer: B

Objective: (8.5) Evaluate with Rational Exponents

no video

Solve and write the solution using set notation.

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

A) {13}

B) {64}

C) {1}

D) {61}

75)

Answer: D

Objective: (8.6) Solve Equation Containing Higher Root

ALVAREZLAB

INTERACTMATH SEC 8.6 EXE 25

ALVAREZ-- VIDEO 58

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

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

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}

76)

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

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

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}

77)

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

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

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

- 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

Find the functional value.

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

- 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

- 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 GFUNC101...04

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

ALVAREZ--VIDEO 65

- 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

- 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

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

86) _____

- A) $49a + 7h$ B) $7a + 7h$ C) $14a + 7h$ D) $14a + 14h$

Answer: C

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

ALVAREZLAB GFUNDF01..08

FUNCTDQ4 (11) INTERACTMATH SEC 9.1 EXE 43

ALVAREZ--VIDEO 68

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

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 GFUNCU01..04

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

INTERACTMATH SEC 9.2 EXE 12

ALVAREZ-- VIDEO 70

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

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

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

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

Find the composition and its domain. Evaluate as indicated.

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

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

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

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

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

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

90) _____

91) _____

92) _____

93) _____

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

A) 287

B) -72

C) -43

D) -252

94) _____

Answer: A

Objective: (9.2) Find Composition of Functions

ALVAREZLAB GFUNCM11..18

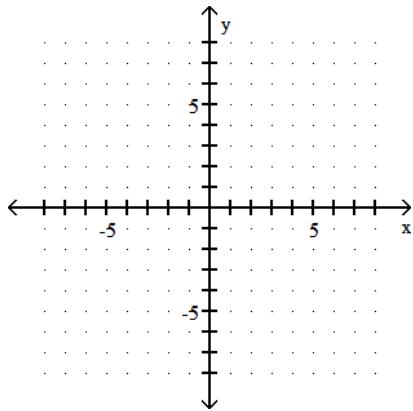
FUNCTCON (13) INTERACTMATH SEC 9.2 EXE 43

ALVAREZ-- VIDEO 76

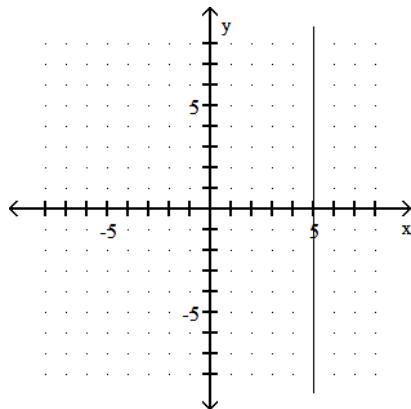
Graph the function by plotting points. State the domain and range.

- 95) $f(x) = 5$

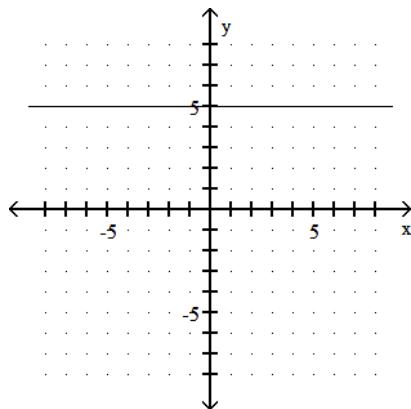
95) _____



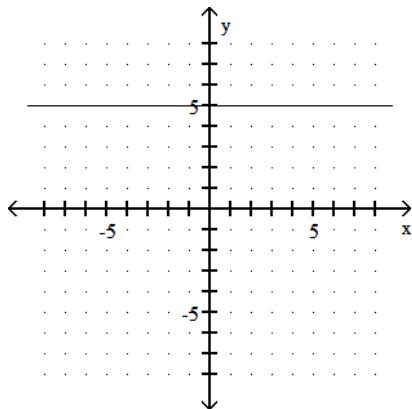
- A) $D = \{5\}$
 $R = (-\infty, \infty)$



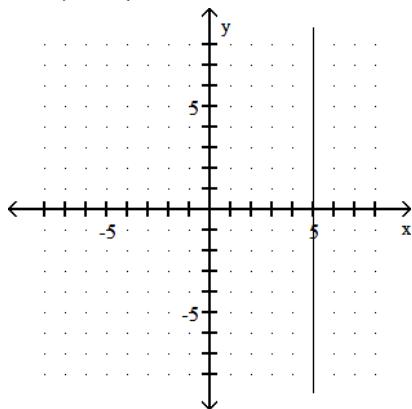
- C) $D = (-\infty, \infty)$
 $R = \{5\}$



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



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



Answer: C

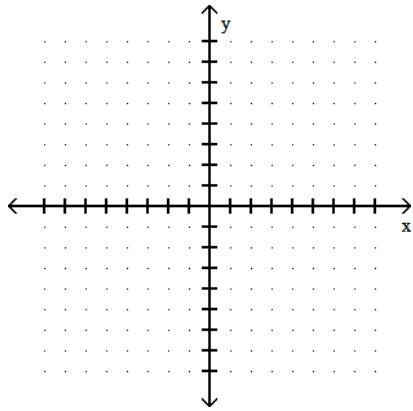
Objective: (9.3) Graph Function

ALVAREZLAB BEN1011...BEN1012

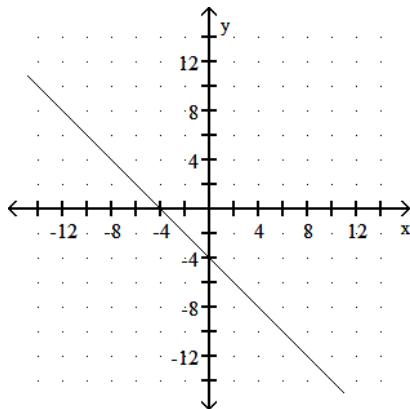
INTERACTMATH SEC 9.3 EXE 13

ALVAREZ--VIDEO 77

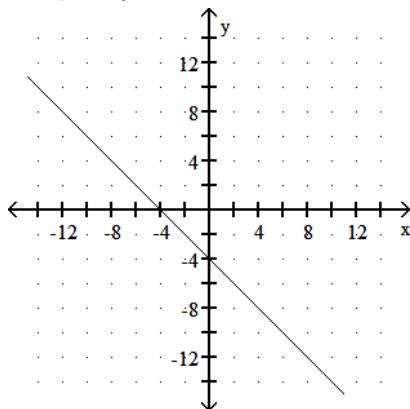
96) $g(x) = x - 4$



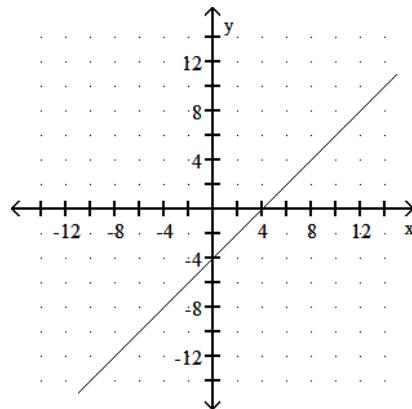
A) $D = (-\infty, \infty)$
 $R = (-\infty, \infty)$



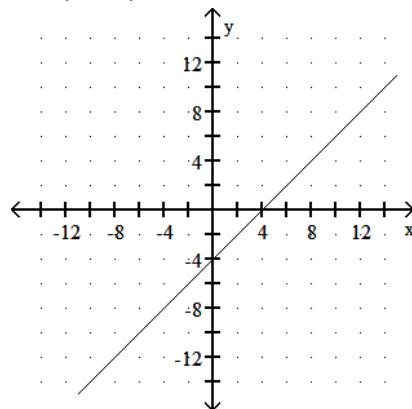
C) $D = (-\infty, \infty)$
 $R = [-4, \infty)$



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



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



Answer: D

Objective: (9.3) Graph Function

ALVAREZLAB BEN1003...BEN1006

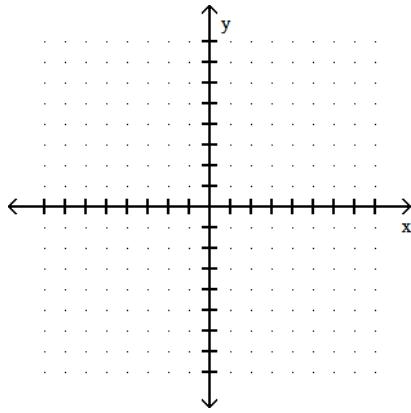
INTERACTMATH SEC 9.3 EXE 15

ALVAREZ--VIDEO 78

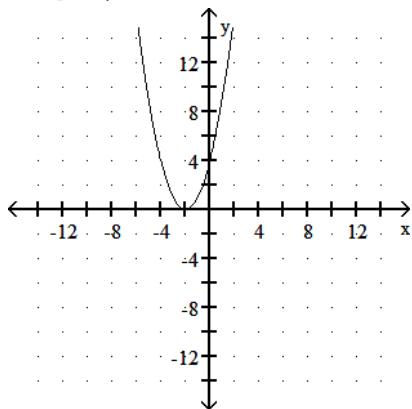
96) _____

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

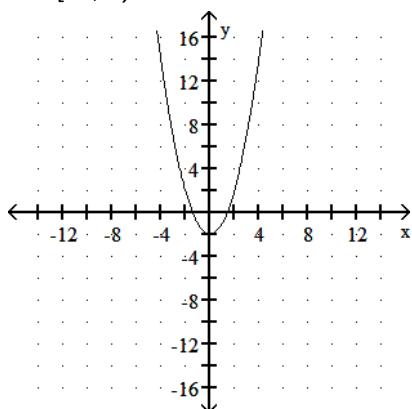
97) _____



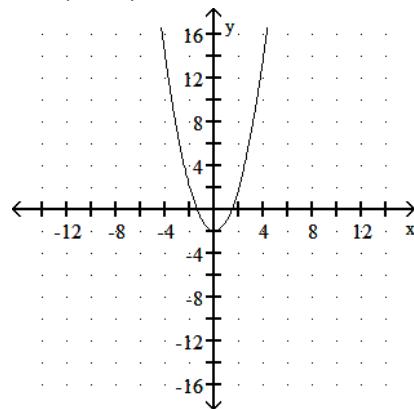
A) $D = (-\infty, \infty)$
 $R = [0, \infty)$



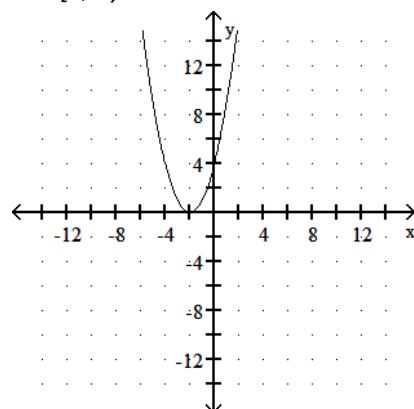
C) $D = (-\infty, \infty)$
 $R = [-2, \infty)$



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



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



Answer: C

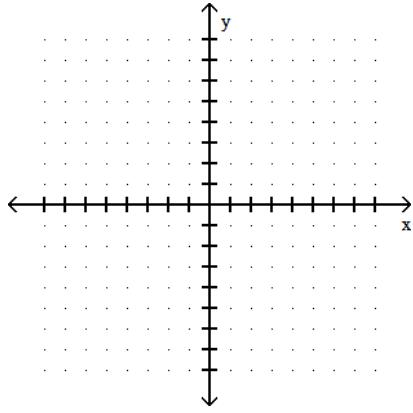
Objective: (9.3) Graph Function

ALVAREZLAB BEN2001...BEN2010

INTERACTMATH SEC 9.3 EXE 29

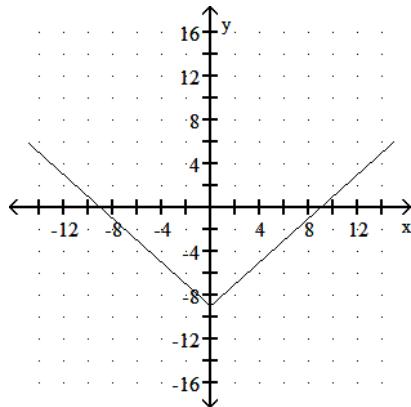
ALVAREZ-- VIDEO 79

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

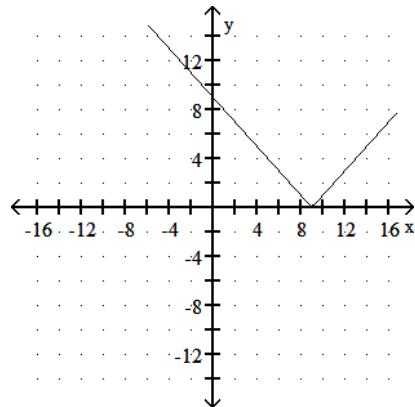


98) _____

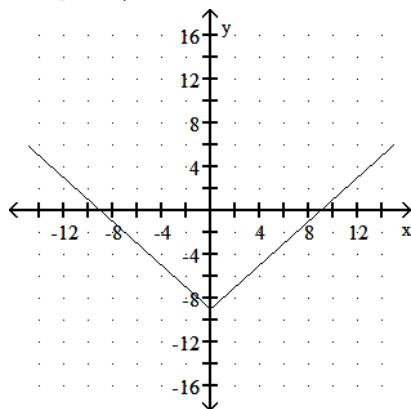
A) $D = [-9, \infty)$
 $R = (-\infty, \infty)$



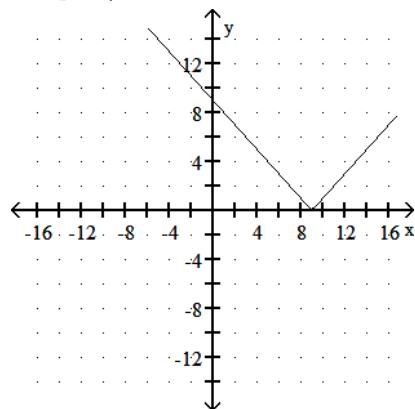
B) $D = (-\infty, \infty)$
 $R = [0, \infty)$



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



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



Answer: B

Objective: (9.3) Graph Function

ALVAREZLAB BEN205..BEN208

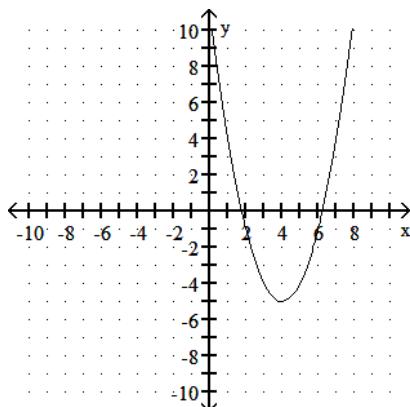
INTERACTMATH SEC 9.3 EXE 32

ALVAREZ-- VIDEO 80

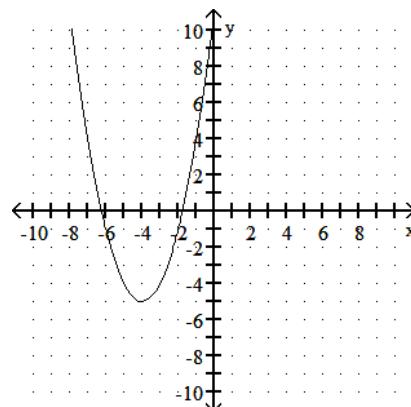
Match the function with the appropriate graph of the transformation of the function $g(x) = x^2$.

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

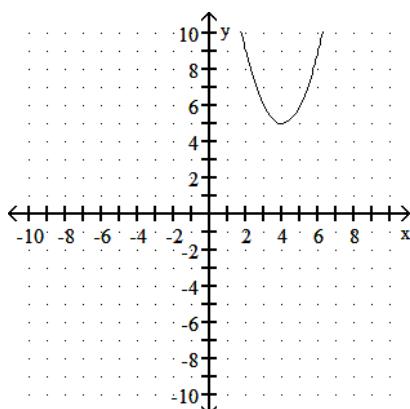
A)



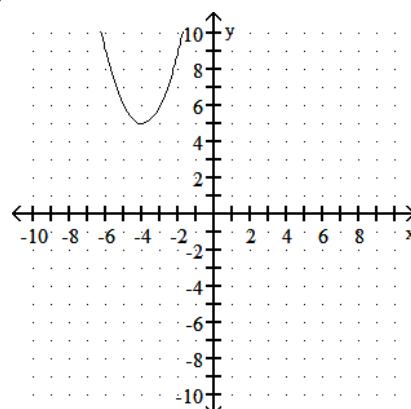
B)



C)



D)



Answer: B

Objective: (9.4) Match Function to Its Graph

ALVAREZLAB GVERTD01...04

GVERTE01...04

BEN101..122

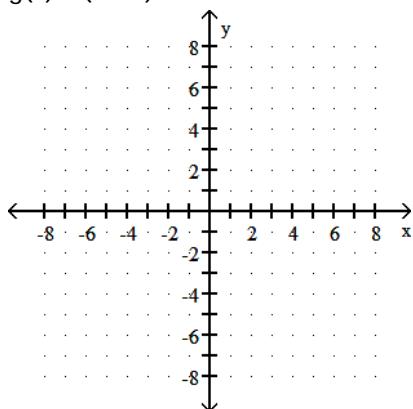
INTERACTMATH SEC 9.4 EXE 11

ALVAREZ-- VIDEO 81

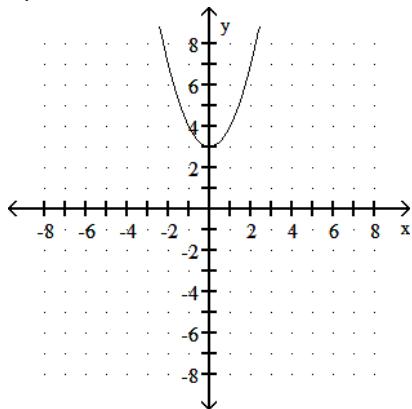
Using transformations and/or reflections and one of the basic graphs, state the transformation and/or reflection and sketch the function.

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

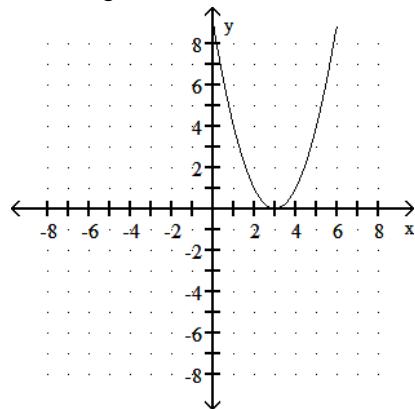
100) _____



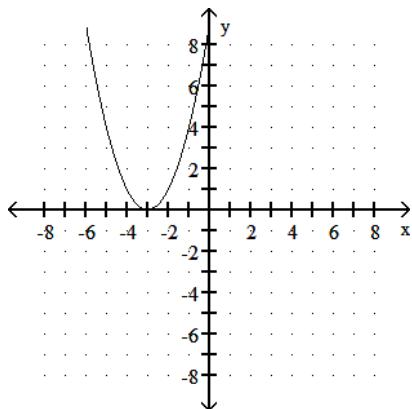
- A) This is the graph of $f(x) = x^2$ shifted up 3 units.



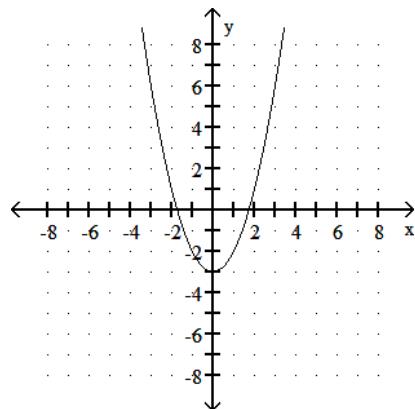
- B) This is the graph of $f(x) = x^2$ shifted to the right 3 units.



- 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

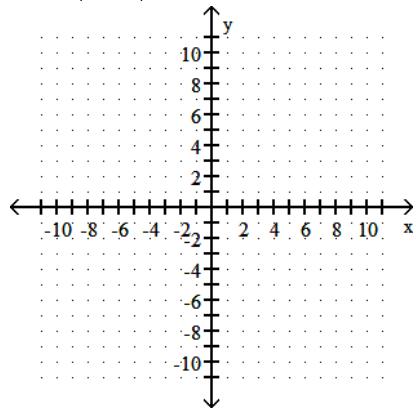
Objective: (9.4) Use Transformations to Graph Function

ALVAREZLAB GVERTD01...04 BEN105 BEN108 BEN111 BEN114

INTERACTMATH SEC 9.4 EXE 14

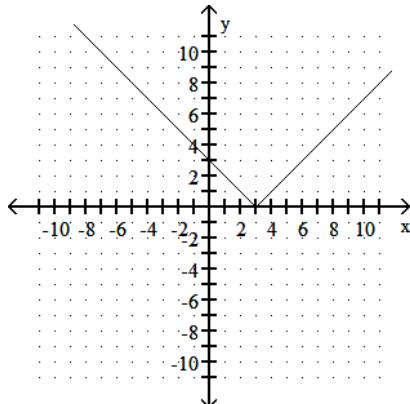
ALVAREZ--VIDEO 82

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

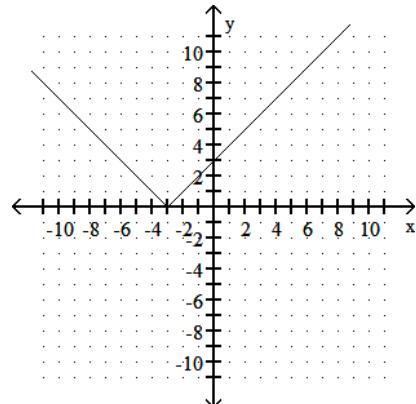


101) _____

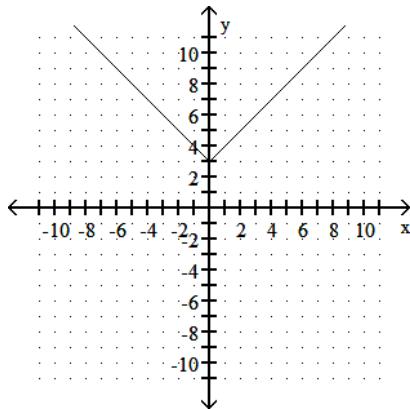
A) This is the graph of $f(x) = |x|$ shifted to the right 3 units.



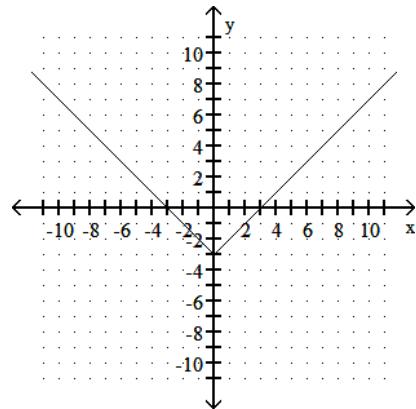
B) This is the graph of $f(x) = |x|$ shifted to the left 3 units.



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

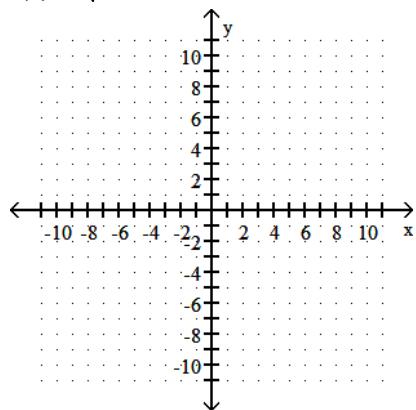
Objective: (9.4) Use Transformations to Graph Function

ALVAREZLAB BEN205..BEN208

INTERACTMATH SEC 9.4 EXE 19

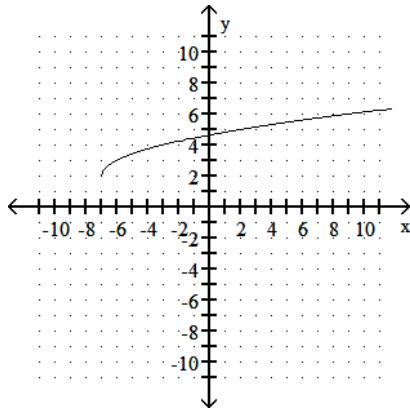
ALVAREZ-- VIDEO 83

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

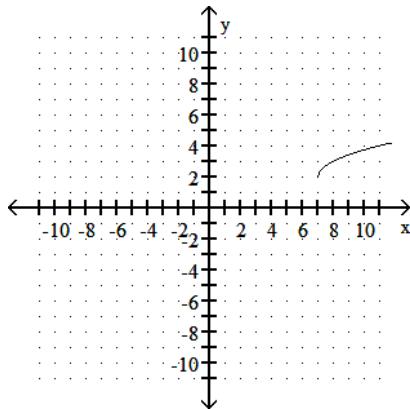


102) _____

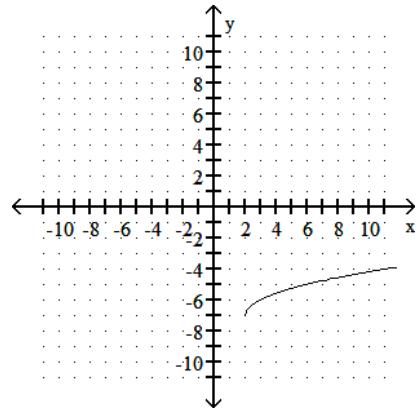
- A) This is the graph of $f(x) = \sqrt{x}$ shifted 7 units to the left and then shifted up 2 units.



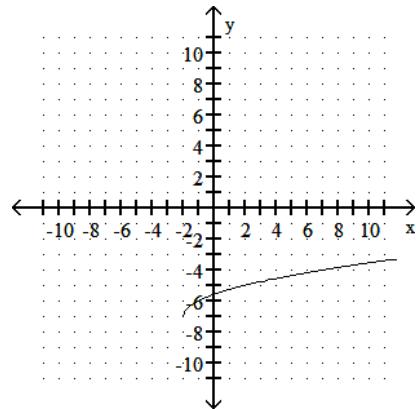
- C) This is the graph of $f(x) = \sqrt{x}$ shifted 7 units to the right and then shifted up 2 units.



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



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



Answer: D

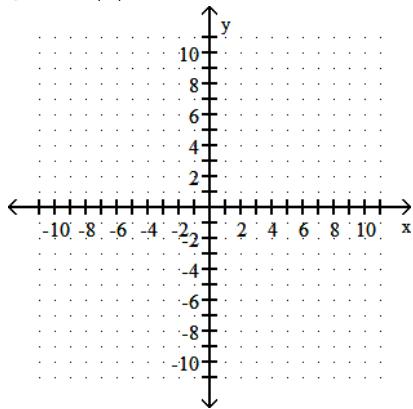
Objective: (9.4) Use Transformations to Graph Function

ALVAREZLAB BEN401..BEN410

INTERACTMATH SEC 9.4 EXE 29

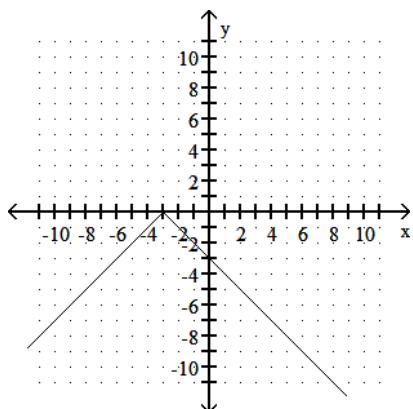
ALVAREZ-- VIDEO 84

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

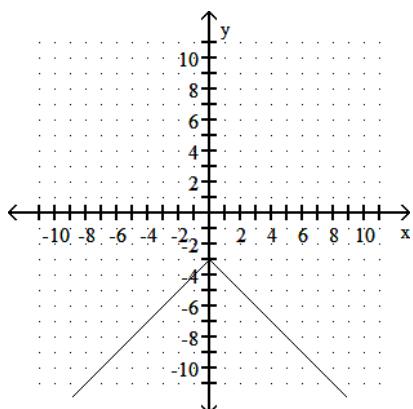


103)

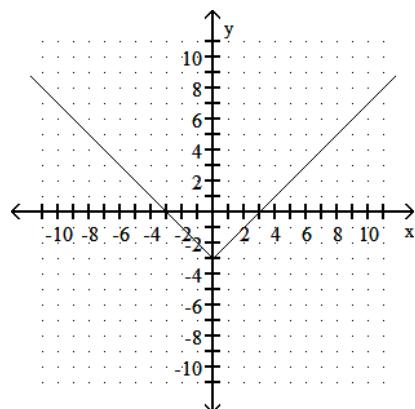
- A) This is the graph of $f(x) = |x|$ shifted left 3 units and then reflected about the x-axis.



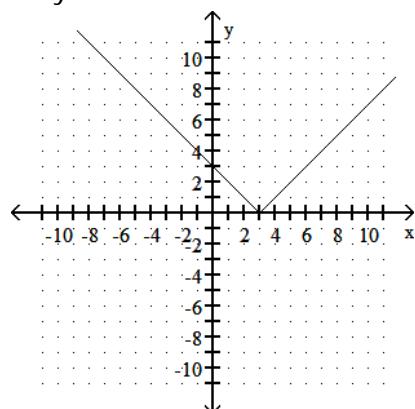
- C) This is the graph of $f(x) = |x|$ reflected about the x-axis and then shifted down 3 units.



- B) This is the graph of $f(x) = |x|$ reflected about the y-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

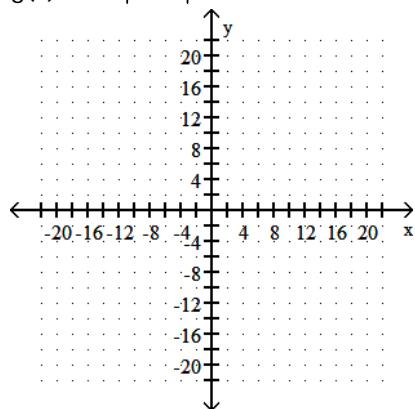
Objective: (9.4) Use Transformations and Reflections to Graph Function

ALVAREZLAB BEN201..BEN204

INTERACTMATH SEC 9.4 EXE 25

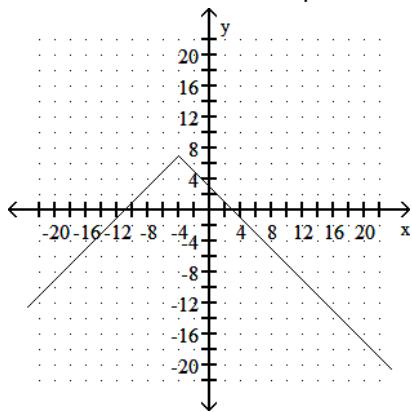
ALVAREZ-- VIDEO 85

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

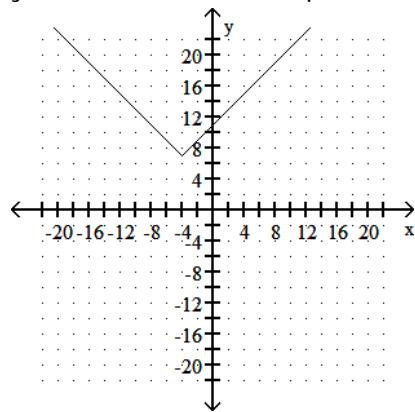


104) _____

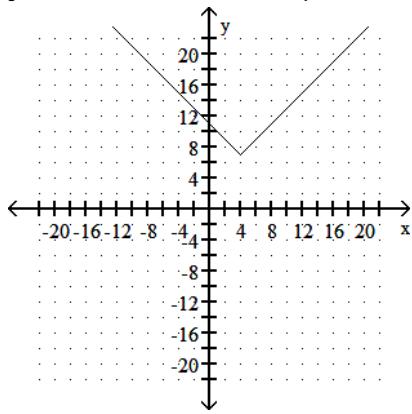
- A) This is the graph of $f(x) = |x|$ shifted to the left 4 units, reflected about the x-axis, and then shifted up 7 units.



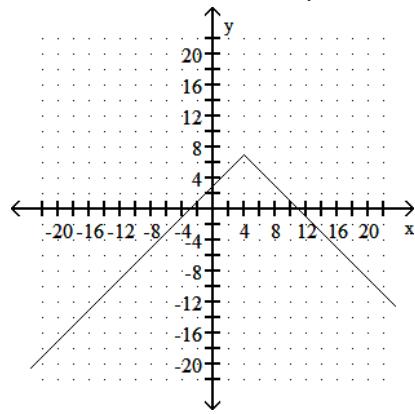
- B) This is the graph of $f(x) = |x|$ shifted to the right 4 units, reflected about the y-axis, and then shifted up 7 units.



- 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

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

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

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

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

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

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

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

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

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

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

ALVAREZ-- VIDEO 95

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

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

INTERACTMATH SEC 10.3 EXE 17

ALVAREZ-- VIDEO 96

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

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

116)

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

Answer: D

Objective: (10.4) Solve Nonlinear Equation

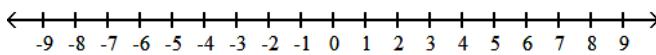
ALVAREZLAB QUADHIGR (14) INTERACTMATH SEC 10.4 EXE 11

ALVAREZ VIDEO 98

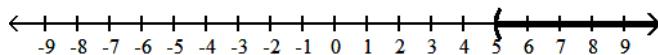
Solve. Graph the solution on the real number line and state the solution using interval notation.

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

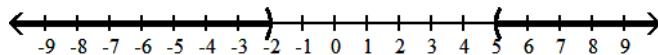
117)



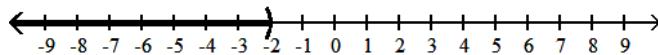
A) $(5, \infty)$



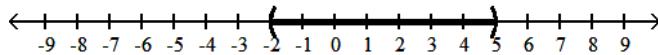
B) $(-\infty, -2) \cup (5, \infty)$



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



D) $(-2, 5)$



Answer: D

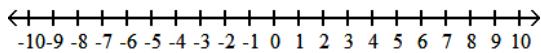
Objective: (10.5) Solve and Graph Quadratic Inequality

ALVAREZLAB QLARINE1 (2) INTERACTMATH SEC 10.5 EXE

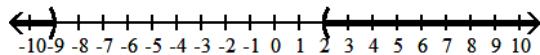
ALVAREZ VIDEO 99

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

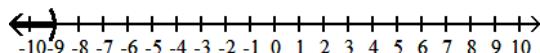
118) _____



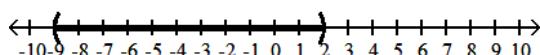
A) $(-\infty, -9) \cup (2, \infty)$



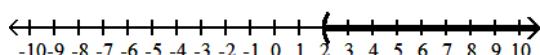
B) $(-\infty, -9)$



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