01-03-20 01-07-20
01-05-20 01-09-20

Student: _____ **Instructor:** Alfredo Alvarez
Date: _____ **Course:** Math 1314 Sullivan Coreq **Assignment:** finalm1314CO093sullljjfoil

READY

1. Add: $-18+14$

$-18+14=$ [ ] (Type an integer.)

Answer: -4

ID: Quick Check R.2.6

$-18+14=$
$-4=$

2. Add.

$-6+6$

$-6+6=$ [ ]

Answer: 0

ID: Quick Check R.2.9

$-6+6=$
$0=$

3. Subtract the following.

$-8-7$

The answer is [ ].

Answer: -15

ID: Quick Check R.2.19

$-8-7=$
$-15=$

4. Find the product.

$-3(6)$

$(-3)6=$ [ ]

Answer: -18

ID: Quick Check R.2.25

$-3(6)=$
$-18=$

5. Evaluate the expression.

$(-5)^2$

$(-5)^2=$ [ ] (Simplify your answer.)

Answer: 25

ID: R.4.31

$(-5)^2=$
$(-5)(-5)=$
$(25)=$
$25=$

6. Find the value of the expression.

-7^4

$-7^4 =$ ☐ (Simplify your answer.)

Answer: -2401

ID: R.4.33

$-7^4 =$

$-(7)(7)(7)(7) =$

$-(49)(7)(7) =$

$-(343)(7) =$

$-(2401) =$

$-2401 =$

PEMDAS

7. Evaluate the expression.

$2 + 3 \cdot (7 - 5)$

$2 + 3 \cdot (7 - 5) =$ ☐

Answer: 8

ID: R.4.43

$2 + 3 \cdot (7-5) =$

$2 + 3 \cdot (2) =$

$2 + 6 =$

$8 =$

PEMDAS

8. Simplify.

$-2[9 - (1 - 5)]$

$-2[9 - (1 - 5)] =$ ☐

Answer: -26

ID: R.4.45

$-2[9-(1-5)] =$

$-2[9-(-4)] =$

$-2[9+4] =$

$-2[13) =$

$-26 =$

PEMDAS

9. Evaluate the expression.

$\frac{10 - (-25)}{5}$

$\frac{10 - (-25)}{5} =$ ☐ (Type an integer or a simplified fraction.)

Answer: 7

ID: R.4.47

$\frac{10-(-25)}{5} =$

$\frac{10+25}{5} =$

$\frac{35}{5} =$

$7 =$

PEMDAS

10. Evaluate the expression.

$4 \cdot [5 + 3 \cdot (5 + 2)]$

$4 \cdot [5 + 3 \cdot (5 + 2)] =$ _____ (Simplify your answer.)

Answer: 104

ID: R.4.53

$4 \cdot [5+3 \cdot (5+2)] =$
$4 \cdot [5+3 \cdot (7)] =$
$4 \cdot (5+21] =$ PEMDAS
$4 \cdot [26] =$
$104 =$

11. Simplify the following expression by combining like terms.

$3(z + 7) - 2(4z + 1)$

$3(z + 7) - 2(4z + 1) =$ _____ (Simplify your answer. Do not factor.)

Answer: $-5z + 19$

ID: Quick Check R.5.27

$3(z+7)-2(4z+1) =$
$3z+21-8z-2 =$
$-5z+19 =$
PEMDAS

12. Simplify the following expression by combining like terms.

$-5(6x - 5) - (4x + 3)$

$-5(6x - 5) - (4x + 3) =$ _____

Answer: $-34x + 22$

ID: Quick Check R.5.28

$-5(6x-5)-(4x+3) =$
$-5(6x-5)-1(4x+3) =$
$-30x+25-4x-3 =$
$-34x+22 =$ PEMDAS

13. Evaluate the following expression for the value given.

$-2x^2 + 6x - 8;\ x = -5$

The expression $-2x^2 + 6x - 8$ evaluated when $x = -5$ is _____. (Type an integer.)

Answer: -88

ID: R.5.49

$-2x^2+6x-8$ $x=-5$
$-2(-5)^2+6(-5)-8 =$
$-2(-5)(-5)+6(-5)-8 =$
$-2(25)+6(-5)-8 =$
$-50-30-8 =$
$-80-8 =$
$-88 =$
PEMDAS

14. Simplify the following expression by combining like terms.

$-3z-2z+7$

$-3z-2z+7=$ [ ] (Simplify your answer. Do not factor.)

$-3z-2z+7=$

$-5z+7=$

Answer: $-5z+7$

ID: R.5.65

15. Simplify the following expression by combining like terms.

$13z+5-14z-6=$

$-1z-1=$

$-z-1=$

$13z+5-14z-6$

$13z+5-14z-6=$ [ ] (Type a simplified expression.)

Answer: $-z-1$

ID: R.5.67

16. Simplify the following expression by combining like terms.

$3(v-6)+5(3v-1)=$

$3v-18+15v-5=$

$18v-23=$

$3(v-6)+5(3v-1)$

$3(v-6)+5(3v-1)=$ [ ] (Simplify your answer. Do not factor.)

Answer: $18v-23$

ID: R.5.83

17. Simplify by factoring.

$\sqrt{24}=$

$\sqrt{4\cdot 6}=$ rewrite

$\sqrt{4}\sqrt{6}=$

$2\sqrt{6}=$

$\sqrt{24}$

$\sqrt{24}=$ [ ] (Type an exact answer, using radicals as needed.)

Answer: $2\sqrt{6}$

Primes 2, 3, 5, 7, 11, ...

24 → 4 · 6

4 → 2 · 2

6 → 2 · 3

1

ID: Quick Check R.6.25

18. Simplify by adding the polynomials.

$(2x^2-7x+7)+(6x^2+18x-18)=$

$2x^2-7x+7+6x^2+18x-18=$

$8x^2+11x-11=$

$(2x^2-7x+7)+(6x^2+18x-18)$

$(2x^2-7x+7)+(6x^2+18x-18)=$ [ ]

(Simpify your answer. Do not factor.)

Answer: $8x^2+11x-11$

ID: Quick Check R.9.18

19. Simplify the following by subtracting the polynomials.

$(9y^3 - y^2 + 4y + 7) - (y^3 + 11y^2 - 6y + 4)$

$(9y^3 - y^2 + 4y + 7) - (y^3 + 11y^2 - 6y + 4) =$ ____ (Do not factor.)

Answer: $8y^3 - 12y^2 + 10y + 3$

$9y^3 - y^2 + 4y + 7 - y^3 - 11y^2 + 6y - 4 =$

$8y^3 - 12y^2 + 10y + 3 =$

ID: Quick Check R.9.22

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20. Simplify.

$(9y^3 - 5y^2 + 3y + 1) - (-2y^3 + 6y + 9)$

$(9y^3 - 5y^2 + 3y + 1) - (-2y^3 + 6y + 9) =$ ____ (Do not factor)

Answer: $11y^3 - 5y^2 - 3y - 8$

$9y^3 - 5y^2 + 3y + 1 + 2y^3 - 6y - 9 =$

$11y^3 - 5y^2 - 3y - 8 =$

ID: Quick Check R.9.23

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21. Multiply.

$(4x^5)(6x^7)$

$(4x^5)(6x^7) =$ ____ (Simplify your answer.)

Answer: $24x^{12}$

$(4x^5)(6x^7) =$

$24x^{5+7} =$

$24x^{12} =$

ID: Quick Check R.10.1

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22. Find the product.

$(5x^3y)(-7x^5y^3)$

$(5x^3y)(-7x^5y^3) =$ ____ (Simplify your answer.)

Answer: $-35x^8y^4$

$(5x^3y^1)(-7x^5y^3) =$

$-35x^{3+5}y^{1+3} =$

$-35x^8y^4 =$

ID: Quick Check R.10.2

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23. Use the distributive property to remove the parentheses.

$-4(x+5)$

$-4(x+5) =$ ____

Answer: $-4x-20$

ID: Quick Check R.10.4

24. Multiply and simplify the expressions.

$6x(x^2+7x+4)$

$6x(x^2+7x+4) =$ ____ (Simplify your answer.)

Answer: $6x^3+42x^2+24x$

ID: Quick Check R.10.5

25. Find the product.

$-4a^4b(6a^3+5ab-b^2)$

$-4a^4b(6a^3+5ab-b^2) =$ ____ (Simplify your answer.)

Answer: $-24a^7b-20a^5b^2+4a^4b^3$

ID: Quick Check R.10.6

26. Find the product of the two binomials.

$(x+6)(x+4)$

$(x+6)(x+4) =$ ____ (Simplify your answer.)

Answer: $x^2+10x+24$

ID: Quick Check R.10.9

27. Use the FOIL method to find the product.

$(2x+5)(2x-1)$

$(2x+5)(2x-1) =$ ____ (Simplify your answer.)

Answer: $4x^2+8x-5$

ID: Quick Check R.10.10

28. Find the product.

$(4a - b)(a + 5b)$

$(4a - b)(a + 5b) =$ ____

Answer: $4a^2 + 19ab - 5b^2$

ID: Quick Check R.10.11

$(4a-b)(a+5b) =$
$4a^2 + 20ab - ab - 5b^2 =$
$4a^2 + 20ab - 1ab - 5b^2 =$
$4a^2 + 19ab - 5b^2 =$

29. Find the product of the polynomials.

$(2a - 6)(6a^2 + 4a - 5)$

$(2a - 6)(6a^2 + 4a - 5) =$ ____

Answer: $12a^3 - 28a^2 - 34a + 30$

ID: Quick Check R.10.12

$(2a-6)(6a^2+4a-5) =$
$12a^3 + 8a^2 - 10a - 36a^2 - 24a + 30 =$
$12a^3 - 28a^2 - 34a + 30 =$

30. Multiply vertically.

$(x^2 + 8x + 5)(8x^2 + 5x - 7)$

$(x^2 + 8x + 5)(8x^2 + 5x - 7) =$ ____ (Simplify your answer.)

Answer: $8x^4 + 69x^3 + 73x^2 - 31x - 35$

ID: Quick Check R.10.13

$8x^4 + 5x^3 - 7x^2 + 64x^3 + 40x^2 - 56x + 40x^2 + 25x - 35 =$
$8x^4 + 69x^3 + 73x^2 - 31x - 35 =$

31. Find the product using the difference of two squares formula.

$(2x + 5)(2x - 5)$

$(2x + 5)(2x - 5) =$ ____

Answer: $4x^2 - 25$

ID: Quick Check R.10.16

$(2x+5)(2x-5) =$
$4x^2 + 10x - 10x - 25 =$
$4x^2 - 25 =$

32. Multiply using the rule for the square of a binomial.

$(x-10)^2$

$(x-10)^2 =$ ____

Answer: $x^2 - 20x + 100$

ID: Quick Check R.10.21

$(x-10)^2 =$
$(x-10)(x-10) =$
$x^2 - 10x - 10x + 100 =$
$x^2 - 20x + 100 =$

33. Find the product.

$(9x+3)^2$

$(9x+3)^2 =$ ____

Answer: $81x^2 + 54x + 9$

ID: Quick Check R.10.22

$(9x+3)^2 =$
$(9x+3)(9x+3) =$
$81x^2 + 27x + 27x + 9 =$
$81x^2 + 54x + 9 =$

34. Find the product.

$(4x^2y)(-3xy^5)$

$(4x^2y)(-3xy^5) =$ ____ (Simplify your answer.)

Answer: $-12x^3y^6$

ID: R.10.23

$(4x^2y^1)(-3x^1y^5) =$
$-12x^{2+1}y^{1+5} =$
$-12x^3y^6 =$

35. Multiply and simplify the expressions.

$8x(x^2 + 6x + 4)$

$8x(x^2 + 6x + 4) =$ ____ (Simplify your answer.)

Answer: $8x^3 + 48x^2 + 32x$

ID: R.10.27

$8x^1(1x^2 + 6x^1 + 4) =$
$8x^{1+2} + 48x^{1+1} + 32x^1 =$
$8x^3 + 48x^2 + 32x =$

36. Find the product of the two binomials.

$(x + 2)(x + 6)$

$(x + 2)(x + 6) =$ _____ (Simplify your answer.)

Answer: $x^2 + 8x + 12$

ID: R.10.35

$(x+2)(x+6) =$
$x^2 + 6x + 2x + 12 =$
$x^2 + 8x + 12 =$

37. Find the product.

$(x + 10)(x - 8)$

$(x + 10)(x - 8) =$ _____ (Simplify your answer.)

Answer: $x^2 + 2x - 80$

ID: R.10.37

$(x+10)(x-8) =$
$x^2 - 8x + 10x - 80 =$
$x^2 + 2x - 80 =$

38. Use the FOIL method to find the product.

$(5x + 7)(2x - 1)$

$(5x + 7)(2x - 1) =$ _____ (Simplify your answer.)

Answer: $10x^2 + 9x - 7$

ID: R.10.39

$(5x+7)(2x-1) =$
$10x^2 - 5x + 14x - 7 =$
$10x^2 + 9x - 7 =$

39. Find the product of the two binomials.

$(6 - 7x)(5 + 4x)$

$(6 - 7x)(5 + 4x) =$ _____ (Simplify your answer.)

Answer: $-28x^2 - 11x + 30$

ID: R.10.41

$(6-7x)(5+4x) =$
$30 + 24x - 35x - 28x^2 =$
$30 - 11x - 28x^2 =$
$-28x^2 - 11x + 30 =$

40. Find the product of the two binomials.

(7a + 5b)(a − 4b)

(7a + 5b)(a − 4b) = ____ (Simplify your answer.)

Answer: $7a^2 - 23ab - 20b^2$

$(7a+5b)(a-4b) =$
$7a^2 - 28ab + 5ab - 20b^2 =$
$7a^2 - 23ab - 20b^2 =$

ID: R.10.45

41. Determine which of the given numbers are solutions to the equation.

$-9x + 4 = -5$; $x = -1$, $x = 1$, $x = 3$

Is $x = -1$ a solution to the equation?

- Yes
- No

$-9x+4 = -5$
$-9(-1)+4 = -5$
$9+4 = -5$
$13 \neq -5$ NO

Is $x = 1$ a solution to the equation?

- No
- Yes

$-9(1)+4 = -5$
$-9+4 = -5$
$-5 = -5$ YES Good

Is $x = 3$ a solution to the equation?

- No
- Yes

$-9(3)+4 = -5$
$-27+4 = -5$
$-23 \neq -5$ NO

Answers No
Yes
No

ID: Quick Check PF.1.3

42. Solve the following equation.

$6x + 3 = 15$

$6x+3 = 15$
$6x+3-3 = 15-3$
$6x = 12$
$\frac{6x}{6} = \frac{12}{6}$
$x = 2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** The solution set is {____}. (Type an integer or a simplified fraction.)
- **B.** The solution is all real numbers.
- **C.** The solution is the empty set.

Answer: A. The solution set is {2}. (Type an integer or a simplified fraction.)

ID: Quick Check PF.1.8

43. Solve the following equation and verify your solution.

$-6x - 7 = 29$

$-6x - 7 = 29$
$-6x - 7 + 7 = 29 + 7$
$-6x = 36$
$\frac{-6x}{-6} = \frac{36}{-6}$
$x = -6$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { }. (Simplify your answer.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is { −6 }. (Simplify your answer.)

ID: Quick Check PF.1.9

44. Solve the following linear equation and verify the solution.

$3x + 3 + 4x + 4 = 2x + 17$

$3x + 3 + 4x + 4 = 2x + 17$
$7x + 7 = 2x + 17$
$7x + 7 - 7 = 2x + 17 - 7$
$7x = 2x + 10$
$7x - 2x = 2x + 10 - 2x$
$5x = 10$
$\frac{5x}{5} = \frac{10}{5}$
$x = 2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { }. (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is { 2 }. (Type an integer or a simplified fraction.)

ID: Quick Check PF.1.11

45. Solve the following linear equation.

$5(x - 2) = 30$

$5(x - 2) = 30$
$5x - 10 = 30$
$5x - 10 + 10 = 30 + 10$
$5x = 40$
$\frac{5x}{5} = \frac{40}{5}$
$x = 8$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { }. (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is { 8 }. (Type an integer or a simplified fraction.)

ID: Quick Check PF.1.14

46. Solve the following linear equation and verify the solution.

$-3(x-2)-1=4(x+3)+35$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** The solution set is { }. (Simplify your answer.)
- **B.** The solution is all real numbers.
- **C.** The solution is the empty set.

Answer: A. The solution set is { **−6** }. (Simplify your answer.)

ID: Quick Check PF.1.15

47. Solve the following linear equation. Be sure to verify your solution.

$0.05x-2.2=0.02x-1.3$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** The solution set is { }. (Type an integer or a decimal.)
- **B.** The solution is all real numbers.
- **C.** The solution is the empty set.

Answer: A. The solution set is { **30** }. (Type an integer or a decimal.)

ID: Quick Check PF.1.23

48. Solve the following linear equation. Identify the equation as an identity, contradiction, or conditional equation.

$5(x+2) = 5x+2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { _____ }. (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

State whether the equation is an identity, contradiction, or conditional equation.

- Identity
- Contradiction
- Conditional equation

Answers C. The solution is the empty set.

Contradiction

ID: Quick Check PF.1.27

49. Solve the following equation and state whether it is an identity, a contradiction, or a conditional equation.

$3(x-3) = 2x-9+x$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { _____ }. (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set or ∅.

State whether the equation is an identity, contradiction, or conditional equation. Choose the correct choice below.

- identity
- contradiction
- conditional equation

Answers B. The solution is all real numbers.

identity

ID: Quick Check PF.1.28

50. Solve the following equation.

$9x + 3 = 21$

$9x+3 = 21$
$9x+3-3 = 21-3$
$9x = 18$
$\frac{9x}{9} = \frac{18}{9}$
$x = 2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { } . (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is { 2 }. (Type an integer or a simplified fraction.)

ID: PF.1.43

51. Solve the following linear equation.

$3z + 9 = 8$

$3z+9 = 8$
$3z+9-9 = 8-9$
$3z = -1$
$\frac{3z}{3} = \frac{-1}{3}$
$z = -\frac{1}{3}$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { } . (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is $\{ -\frac{1}{3} \}$. (Type an integer or a simplified fraction.)

ID: PF.1.45

52. Solve the following linear equation.

$-3w + 2w + 6 = -9$

$-3w+2w+6 = -9$
$-1w+6 = -9$
$-1w+6-6 = -9-6$
$-1w = -15$
$\frac{-1w}{-1} = \frac{-15}{-1}$
$w = 15$

$-3w + 2w + 6 = -9$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { } . (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is { 15 }. (Type an integer or a simplified fraction.)

ID: PF.1.47

53. Solve the following linear equation.

$2(x+3) = -6$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { }. (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is {−6}. (Type an integer or a simplified fraction.)

$2(x+3)=-6$
$2x+6=-6$
$2x+6-6=-6-6$
$2x=-12$
$\frac{2x}{2}=\frac{-12}{2}$
$x=-6$

ID: PF.1.51

54. Solve the following linear equation.

$\frac{5y}{13}-\frac{17}{78}=\frac{y}{6}$

LCD = 78

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { }. (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

Answer: A. The solution set is {1}. (Type an integer or a simplified fraction.)

ID: PF.1.53

Mult by LCD

$\frac{5y}{13}(78)-\frac{17}{78}(78)=\frac{y}{6}(78)$
$5y(6)-17(1)=y(13)$
$30y-17=13y$
$30y-17+17=13y+17$
$30y=13y+17$
$30y-13y=13y+17-13y$
$17y=17$
$\frac{17y}{17}=\frac{17}{17}$
$y=1$

LCD = 24

55. Solve the following linear equation. Identify the equation as an identity, contradiction, or conditional equation.

$$\frac{x}{6}+\frac{9x}{8}=-\frac{31}{24}$$

Mult by LCD

$\frac{x}{6}(24)+\frac{9x}{8}(24)=\frac{-31}{24}(24)$

$x(4)+9x(3)=-31(1)$

$4x+27x=-31$

$31x=-31$

$\frac{31x}{31}=\frac{-31}{31}$

$x=-1$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is { } . (Type an integer or a simplified fraction.)
- B. The solution is all real numbers.
- C. The solution is the empty set.

State whether the equation is an identity, contradiction, or conditional equation.

- Identity
- Contradiction
- Conditional equation

Answers A. The solution set is {−1}. (Type an integer or a simplified fraction.)

Conditional equation

ID: PF.1.69

56. Solve for y.

$3x+y=6$

$y=$ ____

Answer: $-3x+6$

$3x+y=6$

$3x+y-3x=6-3x$

$y=6-3x$

OR

$y=-3x+6$ ✓ rewrite

ID: PF.1.87

57. Solve the equation for y.

$7x+2y=11$

$y=$ ____ (Simplify your answer.)

Answer: $-\frac{7}{2}x+\frac{11}{2}$

$7x+2y=11$

$7x+2y-7x=11-7x$

$2y=11-7x$

$\frac{2y}{2}=\frac{11}{2}-\frac{7x}{2}$

$y=\frac{11}{2}-\frac{7x}{2}$

OR

$y=-\frac{7}{2}x+\frac{11}{2}$

ID: PF.1.89

58. Solve the quadratic equation by completing the square.

$x^2 + 4x = 77$

The solution set is { }.
(Simplify your answer, including any radicals and i as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

Answer: 7, − 11

ID: PF.5.15

$x^2+4x+\left(\frac{1}{2}(4)\right)^2 = 77+\left(\frac{1}{2}(4)\right)^2$
$x^2+4x+(2)^2 = 77+(2)^2$
$x^2+4x+4 = 77+4$
$x^2+4x+4 = 81$
$(x+2)(x+2) = 81$
$(x+2)^2 = 81$
$\sqrt{(x+2)^2} = \pm\sqrt{81}$
$x+2 = \pm 9$
$x+2 = -9$ | $x+2 = 9$
$x+2-2 = -9-2$ | $x+2-2 = 9-2$
$x = -11$ | $x = 7$

59. Solve the following equation.

$8 = 2 + 2(x - 15)$

The solution set is { }.

Answer: 18

ID: F.2.1

$8 = 2+2(x-15)$
$8 = 2+2x-30$
$8 = 2x-28$
$8+28 = 2x-28+28$
$36 = 2x$
$\frac{36}{2} = \frac{2x}{2}$
$18 = x$

60. Solve the equation by factoring.

$z^2 + 2z - 35 = 0$

What is the solution set?

{ } (Use a comma to separate answers as needed.)

Answer: − 7, 5

ID: F.2.2

$z^2+2z-35=0$
$(z-5)(z+7)=0$
$z-5=0$ OR $z+7=0$
$z-5+5=0+5$ OR $z+7-7=0-7$
$z=5$ OR $z=-7$

OR Use Quadratic formula

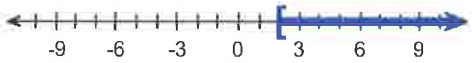
$1z^2+2z-35=0$
$a=1,\ b=2,\ c=-35$
Formula
$x = \frac{-b\pm\sqrt{b^2-4ac}}{2a}$
$x = \frac{-(2)\pm\sqrt{(2)^2-4(1)(-35)}}{2(1)}$
$x = \frac{-2\pm\sqrt{4+140}}{2}$
$x = \frac{-2\pm\sqrt{144}}{2}$
$x = \frac{-2\pm 12}{2}$
$x = \frac{-2}{2} \pm \frac{12}{2}$
$x = -1 \pm 6$
$x = -1+6$ OR $x = -1-6$
$x = 5$ OR $x = -7$

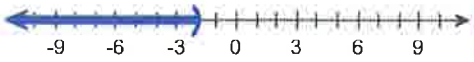
61. Solve the inequality $12 - 3x < 6$. Graph the solution set.

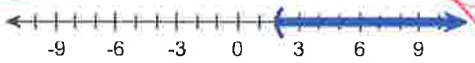
In set notation, the solution is $\{x|$ ____ $\}$. (Type an inequality.)

Graph the solution set. Choose the correct graph below.

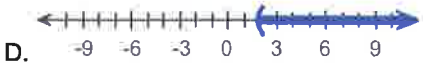
A. 

B. 

C. 

D. 

Answers $x > 2$

D. 

ID: 1.1.4

$12 - 3x < 6$

$12 - 3x - 12 < 6 - 12$

$-3x < -6$

$\frac{-3x}{-3} > \frac{-6}{-3}$ ← divide by a negative and turn the all sector around

$x > 2$

$(2, \infty)$

62. Find the following for the function $f(x) = 3x^2 + 4x - 4$.

(a) $f(0)$ **(b)** $f(1)$ **(c)** $f(-1)$ **(d)** $f(-x)$
(e) $-f(x)$ **(f)** $f(x+2)$ **(g)** $f(5x)$ **(h)** $f(x+h)$

(a) $f(0) =$ _____ (Simplify your answer.)

(b) $f(1) =$ _____ (Simplify your answer.)

(c) $f(-1) =$ _____ (Simplify your answer.)

(d) $f(-x) =$ _____ (Simplify your answer.)

(e) $-f(x) =$ _____ (Simplify your answer.)

(f) $f(x+2) =$ _____ (Simplify your answer.)

(g) $f(5x) =$ _____ (Simplify your answer.)

(h) $f(x+h) =$ _____ (Simplify your answer.)

Answers -4

3

-5

$3x^2 - 4x - 4$

$-3x^2 - 4x + 4$

$3x^2 + 16x + 16$

$75x^2 + 20x - 4$

$3x^2 + 6hx + 3h^2 + 4x + 4h - 4$

ID: 1.1.43

(62) a

$f(x) = 3x^2 + 4x - 4$

$f(0) = 3(0)^2 + 4(0) - 4$

$f(0) = 3(0)(0) + 4(0) - 4$

$f(0) = 3(0) + 4(0) - 4$

$f(0) = 0 + 0 - 4$

$f(0) = 0 - 4$

$f(0) = -4$

(62) b

$f(x) = 3x^2 + 4x - 4$

$f(1) = 3(1)^2 + 4(1) - 4$

$f(1) = 3(1)(1) + 4(1) - 4$

$f(1) = 3(1) + 4(1) - 4$

$f(1) = 3 + 4 - 4$

$f(1) = 7 - 4$

$f(1) = 3$

(62) c

$f(x) = 3x^2 + 4x - 4$

$f(-1) = 3(-1)^2 + 4(-1) - 4$

$f(-1) = 3(-1)(-1) + 4(-1) - 4$

$f(-1) = 3(1) + 4(-1) - 4$

$f(-1) = 3 - 4 - 4$

$f(-1) = -1 - 4$

$f(-1) = -5$

(62) d

$f(x) = 3x^2 + 4x - 4$

$f(-x) = 3(-x)^2 + 4(-x) - 4$

$f(-x) = 3(-x)(-x) + 4(-x) - 4$

$f(-x) = 3(x^2) + 4(-x) - 4$

$f(-x) = 3x^2 - 4x - 4$

(62) e $f(x) = 3x^2 + 4x - 4$

$-f(x) = -(3x^2 + 4x - 4)$

$-f(x) = -3x^2 - 4x + 4$

(62) f $f(x) = 3x^2 + 4x - 4$

$f(x+2) = 3(x+2)^2 + 4(x+2) - 4$

$f(x+2) = 3(x+2)(x+2) + 4(x+2) - 4$

$f(x+2) = 3(x^2 + 2x + 2x + 4) + 4(x+2) - 4$

$f(x+2) = 3(x^2 + 4x + 4) + 4(x+2) - 4$

$f(x+2) = 3x^2 + 12x + 12 + 4x + 8 - 4$

$f(x+2) = 3x^2 + 16x + 16$

(61) g

$f(x) = 3x^2 + 4x - 4$

$f(5x) = 3(5x)^2 + 4(5x) - 4$

$f(5x) = 3(5x)(5x) + 4(5x) - 4$

$f(5x) = 3(25x^2) + 20x - 4$

$f(5x) = 75x^2 + 20x - 4$

(62) h

$f(x) = 3x^2 + 4x - 4$

$f(x+h) = 3(x+h)^2 + 4(x+h) - 4$

$f(x+h) = 3(x+h)(x+h) + 4(x+h) - 4$

$f(x+h) = 3(x^2 + xh + xh + h^2) + 4(x+h) - 4$

$f(x+h) = 3(x^2 + 1xh + 1xh + h^2) + 4(x+h) - 4$

$f(x+h) = 3(x^2 + 2xh + h^2) + 4(x+h) - 4$

$f(x+h) = 3x^2 + 6xh + 3h^2 + 4x + 4h - 4$

63. For the given functions f and g, complete parts (a)-(h). For parts (a)-(d), also find the domain.

$f(x) = 2x + 1$; $g(x) = 5x - 9$

(a) Find $(f + g)(x)$.

$(f + g)(x) =$ _____ (Simplify your answer.)

What is the domain of $f + g$? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The domain is $\{x|$ _____ $\}$.
  (Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)
- B. The domain is $\{x|\ x$ is any real number$\}$.

(b) Find $(f - g)(x)$.

$(f - g)(x) =$ _____ (Simplify your answer.)

What is the domain of $f - g$? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The domain is $\{x|$ _____ $\}$.
  (Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)
- B. The domain is $\{x|\ x$ is any real number$\}$.

(c) Find $(f \cdot g)(x)$.

$(f \cdot g)(x) =$ _____ (Simplify your answer.)

What is the domain of $f \cdot g$? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The domain is $\{x|$ _____ $\}$.
  (Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)
- B. The domain is $\{x|\ x$ is any real number$\}$.

(d) Find $\left(\frac{f}{g}\right)(x)$.

$\left(\frac{f}{g}\right)(x) =$ _____ (Simplify your answer.)

What is the domain of $\frac{f}{g}$? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The domain is $\{x|$ _____ $\}$.
  (Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)
- B. The domain is $\{x|\ x$ is any real number$\}$.

(e) Find $(f + g)(3)$.

$(f+g)(3) =$ _____ (Type an integer or a simplified fraction.)

(f) Find $(f-g)(2)$.

$(f-g)(2) =$ _____ (Type an integer or a simplified fraction.)

(g) Find $(f \cdot g)(4)$.

$(f \cdot g)(4) =$ _____ (Type an integer or a simplified fraction.)

(h) Find $\left(\frac{f}{g}\right)(1)$.

$\left(\frac{f}{g}\right)(1) =$ _____ (Type an integer or a simplified fraction.)

Answers $7x - 8$

B. The domain is {x| x is any real number}.

$-3x + 10$

B. The domain is {x| x is any real number}.

$10x^2 - 13x - 9$

B. The domain is {x| x is any real number}.

$\frac{2x+1}{5x-9}$

A. The domain is $\left\{x \middle| x \neq \frac{9}{5}\right\}$.

(Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

13

4

99

$-\frac{3}{4}$

ID: 1.1.67

$(f-g)(x) = -3x+10$

$(f-g)(2) = -3(2)+10$

$(f-g)(2) = -6+10$

$(f-g)(2) = 4$ ✓

$(f \cdot g)(x) = 10x^2 - 13x - 9$

$(f \cdot g)(4) = 10(4)^2 - 13(4) - 9$

$(f \cdot g)(4) = 10(4)(4) - 13(4) - 9$

$(f \cdot g)(4) = 10(16) - 13(4) - 9$

$(f \cdot g)(4) = 160 - 52 - 9$

$(f \cdot g)(4) = 108 - 9$

$(f \cdot g)(4) = 99$ ✓

$\left(\frac{f}{g}\right)(x) = \frac{2x+1}{5x-9}$

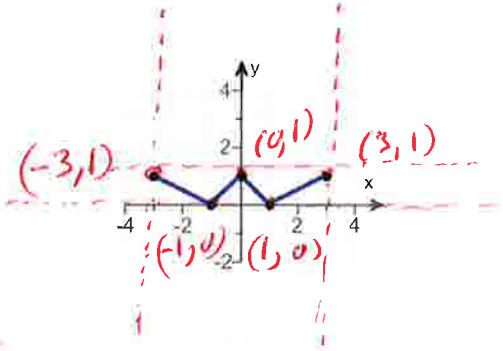
$\left(\frac{f}{g}\right)(1) = \frac{2(1)+1}{5(1)-9}$

$\left(\frac{f}{g}\right)(1) = \frac{2+1}{5-9}$

$\left(\frac{f}{g}\right)(1) = \frac{3}{-4}$ ✓

64. Using the given graph of the function f, find the following.

(a) the intercepts, if any
(b) its domain and range
(c) the intervals on which it is increasing, decreasing, or constant
(d) whether it is even, odd, or neither



(a) What are the intercepts? x-intercept y-intercept

x-intercept (-1,0) (1,0) (0,1)

(Simplify your answer. Type an ordered pair. Use a comma to separate answers as needed.)

(b) The domain is [-3,3] ← (left, right)

(Type your answer in interval notation.)

The range is [0,1] ← [bottom, TOP]

(Type your answer in interval notation.)

(c) On which interval(s) is the graph increasing? Select the correct choice below and fill in any answer boxes within your choice.

A. The graph is increasing on [-1,0] [1,3]

(Type your answer in interval notation. Use a comma to separate answers as needed.)

B. The graph is not increasing on any interval.

On which interval(s) is the graph decreasing? Select the correct choice below and fill in any answer boxes within your choice.

A. The graph is decreasing on [-3,-1] [0,1]

(Type your answer in interval notation. Use a comma to separate answers as needed.)

B. The graph is not decreasing on any interval.

On which interval(s) is the graph constant? Select the correct choice below and fill in any answer boxes within your choice.

A. The graph is constant on _____.

(Type your answer in interval notation. Use a comma to separate answers as needed.)

B. The graph is not constant on any interval.

(d) The function is (1) _____

(1) neither odd nor even.
even.
odd.

Answers $(-1,0),(1,0),(0,1)$

$[-3,3]$

$[0,1]$

A. The graph is increasing on $[-1,0],[1,3]$.
(Type your answer in interval notation. Use a comma to separate answers as needed.)

A. The graph is decreasing on $[-3,-1],[0,1]$.
(Type your answer in interval notation. Use a comma to separate answers as needed.)

B. The graph is not constant on any interval.

(1) even.

ID: 1.3.25

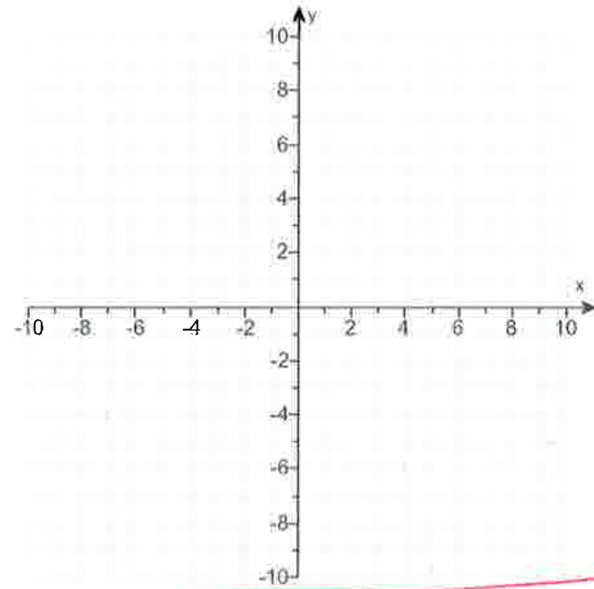
65.

(a) Graph $f(x) = |x - 4| - 3$ using transformations.
(b) Find the area of the region bounded by f and the x-axis that lies below the x-axis.

(a) Graph f(x).

(Use the graphing tool provided to graph the function.)

(b) The area of the region bounded by f and the x-axis that lies below the x-axis is ______ square units.
(Simplify your answer.)



$f(x) = |x - 4| - 3$

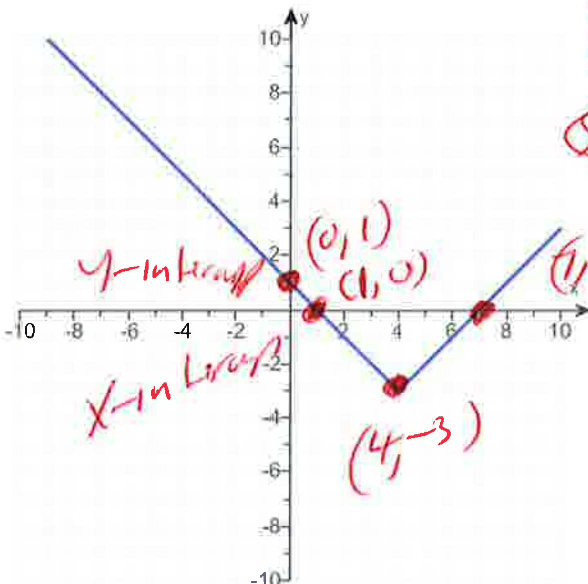
Shift right 4

Shift down −3

use graphing calculator

(1, 0) x-intercept

Answers



x	f(x)
0	1
1	0
4	−3
7	0

9

window
x-min = −12
x-max = 12
y-min = −10
y-max = 10

y_1 = Math, Num, abs

$y_1 = abs(x - 4) - 3$

ID: 1.5.81

66. Find the slope of the line joining the points (4,3) and (6,0).

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The slope is _____ (Simplify your answer.)
- B. The slope is undefined.

Answer: A. The slope is $-\frac{3}{2}$. (Simplify your answer.)

ID: 2.1.2

67. Solve the following equation.

$40x - 1200 = -15x + 2650$

The solution set is { }. (Simplify your answer.)

Answer: 70

ID: 2.1.4

68. If $f(x) = x^2 - 9$, find $f(-5)$.

$f(-5) =$ _____

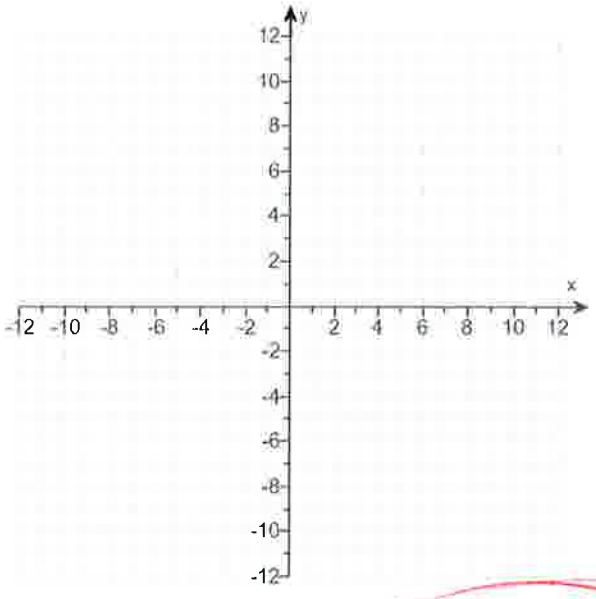
Answer: 16

ID: 2.1.5

69.

(a) Find the zero of the linear function and (b) graph the function using the zero and y-intercept.

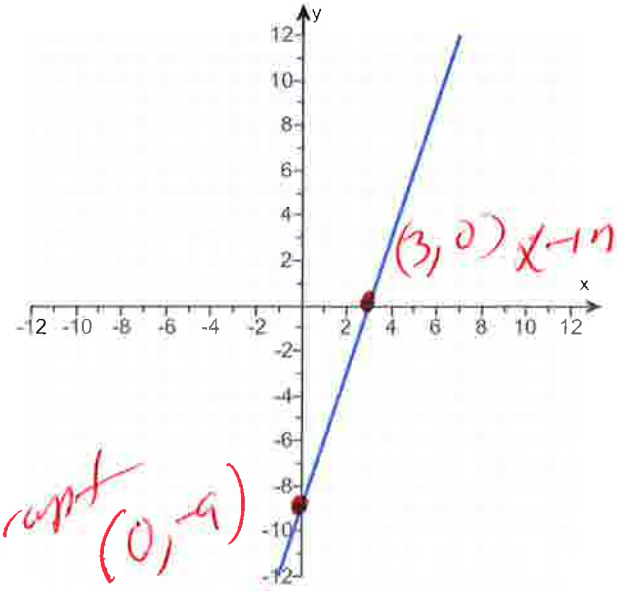
$g(x) = 3x - 9$



(a) The zero is [ ].
(Type a whole number.)

(b) Use the graphing tool to graph the linear equation. Use the intercepts when drawing the line.

Answers 3



$g(x) = 3x - 9$

Use graphing Calculator

x	g(x)
0	-9
3	0

(3, 0) x-intercept

y-intercept (0, -9)

Window
x-min = -12
x-max = 12
y-min = -10
y-max = 10

BIG

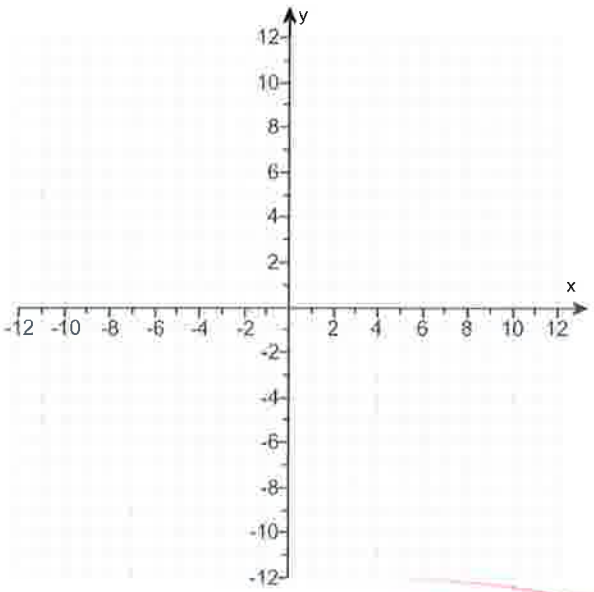
$Y_1 = 3X - 9$

ID: 2.1.21

70.

(a) Find the zero of the linear function and
(b) graph the function using the zero and y-intercept.

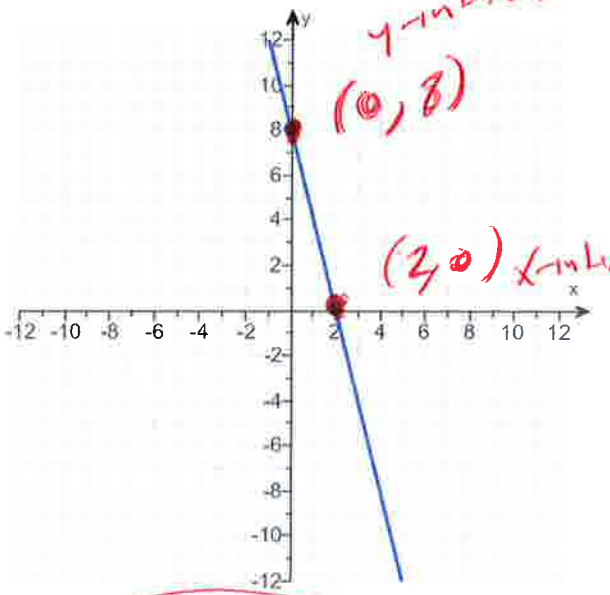
$g(x) = -4x + 8$



(a) The zero is [ ].
(Type a whole number.)

(b) Use the graphing tool to graph the linear equation. Use the intercepts when drawing the line.

Answers 2



y-intercept
(0, 8)
(2, 0) x-intercept

$g(x) = -4x + 8$
use graphing calculator

x	g(x)
0	8
2	0

window
x-min = -12
x-max = 12
y-min = -10
y-max = 10

$y_1 = -4x + 8$
Line

ID: 2.1.23

71. Factor the given polynomial completely. If the polynomial cannot be factored, say that it is prime.

$x^2 + 8x + 15$

Select the correct choice below and fill in any answer boxes within your choice.

- **A.** $x^2 + 8x + 15 =$ _____
- **B.** The polynomial is prime.

Answer: A. $x^2 + 8x + 15 =$ **(x + 3)(x + 5)**

ID: 2.3.1

72. Solve the equation.

$(x - 5)(2x + 1) = 0$

The solution set is { _____ }. (Use a comma to separate answers as needed.)

Answer: $5, -\frac{1}{2}$

ID: 2.3.3

73. Find the zeros of the following quadratic function by factoring. What are the x-intercepts of the graph of the function?

$f(x) = x^2 - 4x$

Select the correct choice below and fill in the answer box to complete your choice.
(Simplify your answer. Use a comma to separate answers as needed.)

- **A.** The zeros and the x-intercepts are the same. They are _____.
- **B.** The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.

Answer: A. The zeros and the x-intercepts are the same. They are **0,4**.

ID: 2.3.13

$a^2-b^2=(a+b)(a-b)$ formula

74. Find the zeros of the quadratic function by factoring. What are the x-intercepts of the graph of the function?

$g(x)=x^2-100$ Let $x^2-100=0$ $(x)^2-(10)^2=0$

Select the correct choice below and fill in the answer box to complete your choice.
(Use a comma to separate answers as needed. Type an integer or a simplified fraction.)

$(x+10)(x-10)=0$

A. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.

B. The zeros and the x-intercepts are the same. They are

$x+10=0$ OR $x-10=0$

OR $x-10+10=0+10$

Answer: B. The zeros and the x-intercepts are the same. They are 10, −10

$x-10-10=0-10$ OR $x=10$ ✓

$x=-10$

ID: 2.3.15

Possible 1·2

75. Find the zeros of the quadratic function by factoring. What are the x-intercepts of the graph of the function?

$F(x)=x^2+x-2$ Let $x^2+x-2=0$

$(x-1)(x+2)=0$

Select the correct choice below and fill in the answer box to complete your choice.
(Use a comma to separate answers as needed. Type an integer or a simplified fraction.)

A. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.

B. The zeros and the x-intercepts are the same. They are

$x-1=0$ OR $x+2=0$

$x-1+1=0+1$ OR $x+2-2=0-2$

Answer: B. The zeros and the x-intercepts are the same. They are −2,1

OR $x=-2$ ✓

$x=1$ ✓

ID: 2.3.17

76. Find the zeros of the quadratic function by factoring. What are the x-intercepts of the graph of the function?

$g(x)=3x^2-8x-3$ $3x^2-8x-3=0$ $(3x+1)(x-3)=0$

Select the correct choice below and fill in the answer box to complete your choice.
(Use a comma to separate answers as needed. Type an integer or a simplified fraction.)

$3x+1=0$ OR $x-3=0$

A. The zeros and the x-intercepts are the same. They are _____.

B. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.

$3x+1-1=0-1$ OR $x-3+3=0+3$

$3x=-1$

Answer: A. The zeros and the x-intercepts are the same. They are $-\frac{1}{3}$,3

OR $x=3$ ✓

$\frac{3x}{3}=\frac{-1}{3}$

ID: 2.3.19

$x=-\frac{1}{3}$ ✓

77. Find the zeros of the following quadratic function by factoring. What are the x-intercepts of the graph of the function?

$g(x) = x(x + 9) + 14$

Select the correct choice below and fill in the answer box to complete your choice.
(Simplify your answer. Use a comma to separate answers as needed.)

- A. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.
- B. The zeros and the x-intercepts are the same. They are _____.

Answer: B. The zeros and the x-intercepts are the same. They are **−2, −7**.

ID: 2.3.23

78. Find the zeros of the quadratic function using the square root method. What are the x-intercepts of the graph of the function?

$g(x) = (x - 4)^2 - 4$

Select the correct choice below and fill in the answer box to complete your choice.
(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

- A. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.
- B. The zeros and the x-intercepts are the same. They are _____.

Answer: B. The zeros and the x-intercepts are the same. They are **6,2**.

ID: 2.3.29

79. Find the real zeros, if any, of the quadratic function using the quadratic formula. What are the x-intercepts, if any, of the graph of the function?

$f(x) = x^2 + 10x + 22$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.
(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

- A. The zeros and the x-intercepts are the same. They are _____.
- B. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.
- C. There is no real zero solution and no x-intercept.

Answer: A. The zeros and the x-intercepts are the same. They are $-5+\sqrt{3}, -5-\sqrt{3}$.

ID: 2.3.39

80. Find the zeros, if any, of the quadratic function using the quadratic formula. What are the x-intercepts, if any, of the graph of the function?

$f(x) = 2x^2 - 1 + 2x$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice. (Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

- A. The zeros and the x-intercepts are the same. They are _____.
- B. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.
- C. There is no real zero solution and no x-intercept.

Answer: A. The zeros and the x-intercepts are the same. They are $\frac{-1+\sqrt{3}}{2}, \frac{-1-\sqrt{3}}{2}$.

ID: 2.3.47

81. Find the real zeros of the quadratic function using any method you wish. What are the x-intercepts, if any, of the graph of the function?

$G(x) = 10x^2 - 17x - 20$

Select the correct choice below and fill in the answer box to complete your choice.

- A. The zeros and the x-intercepts are the same. They are _____.
- B. The zeros and the x-intercepts are different. The zeros are _____, the x-intercepts are _____.

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

Answer: A. The zeros and the x-intercepts are the same. They are $-\frac{4}{5}, \frac{5}{2}$

ID: 2.3.81

82. Find the real solutions of the following equation.

$20x^2 + 13x - 15 = 0$

Select the correct choice below and, if necessary, fill in the answer box to complete your answer.

- A. The real solutions are _____.
  (Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)
- B. There are no real solutions.

Answer: A. The real solutions are $-\frac{5}{4}, \frac{3}{5}$.

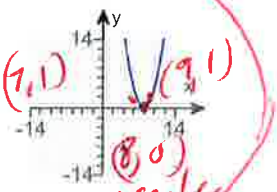
(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

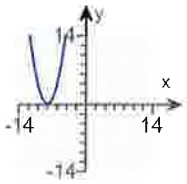
ID: 2.4.2

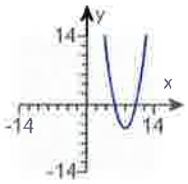
83. Match the graph with the following function.

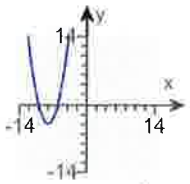
$f(x) = x^2 - 16x + 64$

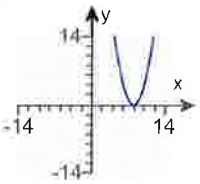
Choose the correct graph below.

A. 

B. 

C. 

D. 

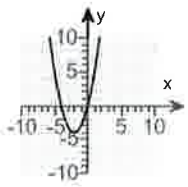
Answer: 

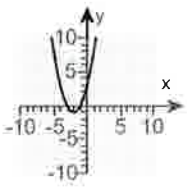
A.

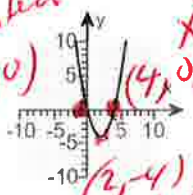
ID: 2.4.15

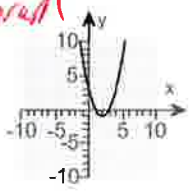
84. Match the function $f(x) = x^2 - 4x$ to one of the given graphs.

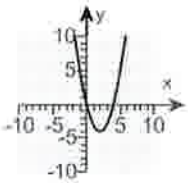
Choose the correct graph below.

A. 

B. 

C. 

D. 

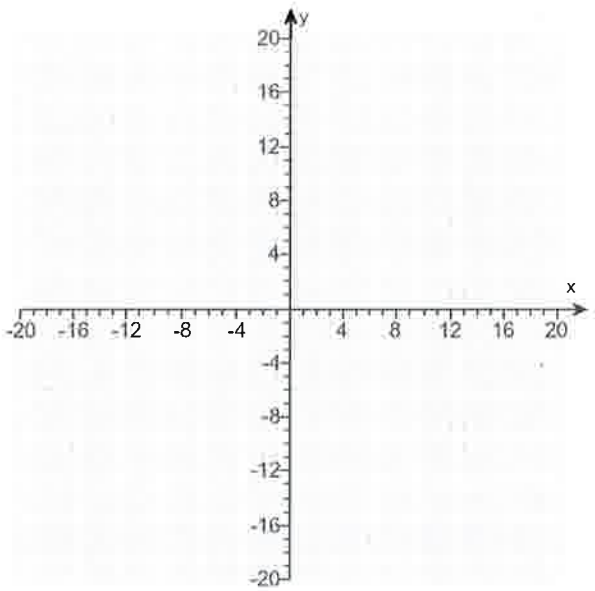
Answer: C. 

ID: 2.4.19

85. NEXT Page Please

35.

For the quadratic function $f(x) = x^2 + 6x - 7$, answer parts **(a)** through **(c)**.



(a) Graph the quadratic function by determining whether its graph opens up or down and by finding its vertex, axis of symmetry, y-intercept, and x-intercepts, if any.

Does the graph of f open up or down?

- ○ down
- ○ up

What are the coordinates of the vertex?

The vertex of the parabola is ____.
(Type an ordered pair. Use integers or fractions for any numbers in the expression.)

What is the equation of the axis of symmetry?

The axis of symmetry is ____.
(Type an equation.)

What is/are the x-intercept(s)? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** The x-intercept(s) is/are ____.
  (Type an integer or a decimal. Use a comma to separate answers as needed.)
- ○ **B.** There are no x-intercepts.

What is the y-intercept? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** The y-intercept is ____.
  (Type an integer or a decimal.)
- ○ **B.** There is no y-intercept.

Use the graphing tool to graph the function.

(b) Determine the domain and the range of the function.

The domain of f is ____.
(Type your answer in interval notation.)

The range of f is ____.
(Type your answer in interval notation.)

(c) Determine where the function is increasing and where it is decreasing.

The function is increasing on the interval ____.
(Type your answer in interval notation.)

Answers up

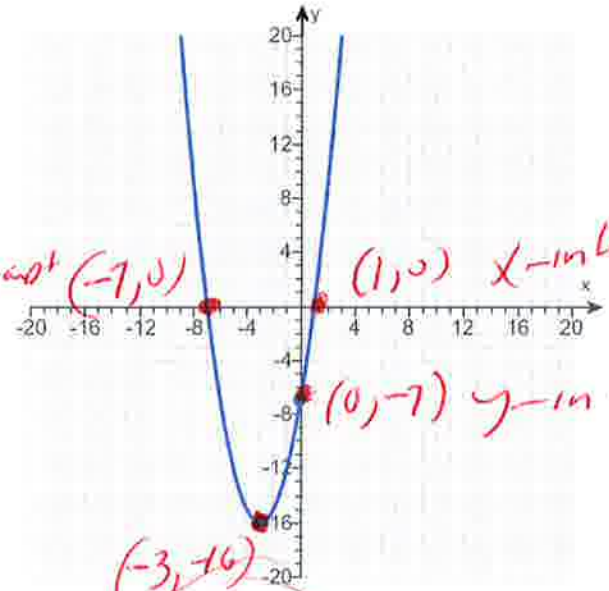
(−3, −16)

x = −3

A. The x-intercept(s) is/are −7,1.

(Type an integer or a decimal. Use a comma to separate answers as needed.)

A. The y-intercept is −7.(Type an integer or a decimal.)



x-intercept (−7,0) (1,0) x-intercept

(0,−7) y-intercept

(−3,−16) Vertex min

x	f(x)
−7	0
−3	−16
0	−7
1	0

Vertex

$f(x) = x^2 + 6x - 7$

use graphing calculator

$y_1 = x^2 + 6x - 7$ BIG

(−∞,∞)

[−16,∞)

[−3,∞)

(−∞, −3]

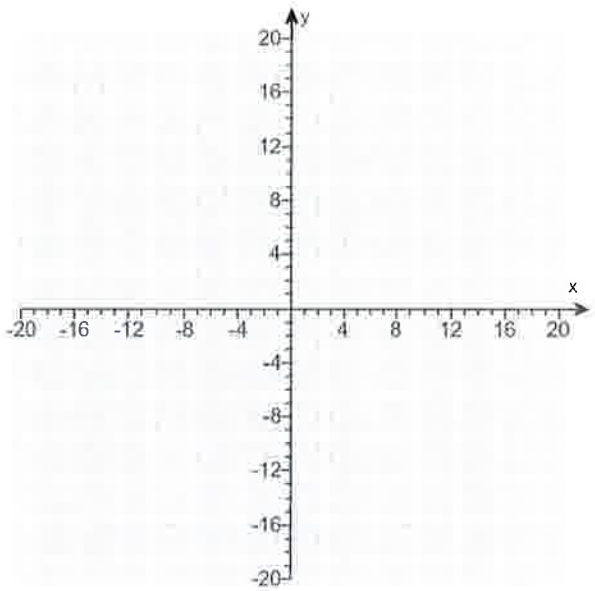
Window
x-min = −12
x-max = 12
y-min = −20
y-max = 20

ID: 2.4.37

86

Next Page Please

For the quadratic function $f(x) = x^2 + 4x + 4$, answer parts **(a)** through **(c)**.



(a) Graph the quadratic function by determining whether its graph opens up or down and by finding its vertex, axis of symmetry, y-intercept, and x-intercepts, if any.

Does the graph of f open up or down?

- ○ down
- ○ up

What are the coordinates of the vertex?

The vertex of the parabola is _____.
(Type an ordered pair. Use integers or fractions for any numbers in the expression.)

What is the equation of the axis of symmetry?

The axis of symmetry is _____.
(Type an equation.)

What is the y-intercept? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** The y-intercept is _____.
  (Type an integer or a decimal.)
- ○ **B.** There is no y-intercept.

What is/are the x-intercept(s)? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** The x-intercept(s) is/are _____.
  (Type an integer or a decimal. Use a comma to separate answers as needed.)
- ○ **B.** There are no x-intercepts.

Use the graphing tool to graph the function.

(b) Determine the domain and the range of the function.

The domain of f is _____.
(Type your answer in interval notation.)

The range of f is _____.
(Type your answer in interval notation.)

(c) Determine where the function is increasing and where it is decreasing.

The function is increasing on the interval _____.
(Type your answer in interval notation.)

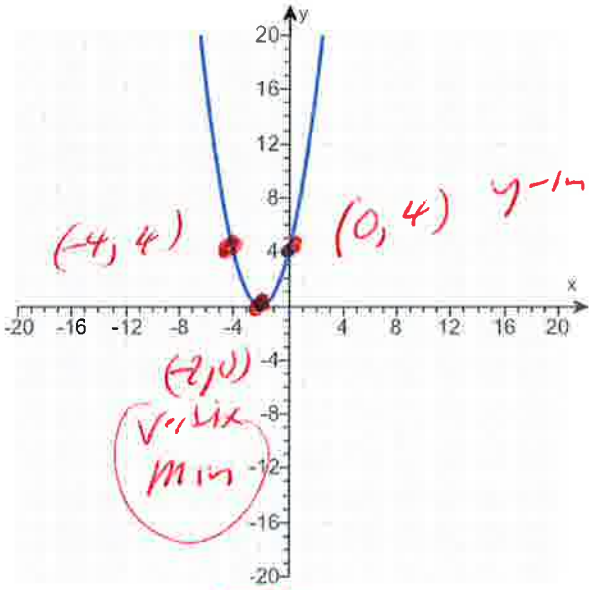
Answers up

(−2,0)

x = −2

A. The y-intercept is 4 .(Type an integer or a decimal.)

A. The x-intercept(s) is/are −2 .
(Type an integer or a decimal. Use a comma to separate answers as needed.)



(−∞,∞)

[0,∞)

[−2,∞)

(−∞,−2]

ID: 2.4.39

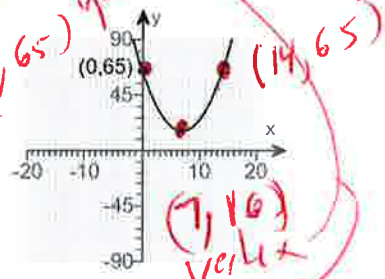
87. Find the complex zeros of the quadratic function. Graph the function and label the intercepts.

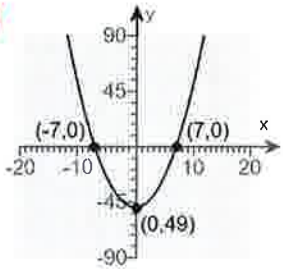
$f(x) = x^2 - 14x + 65$

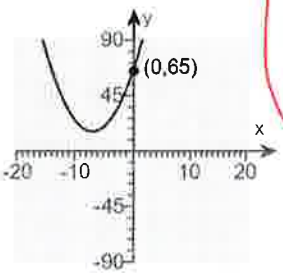
The zeros of the function are ____.

(Simplify your answer, including any radicals and i as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

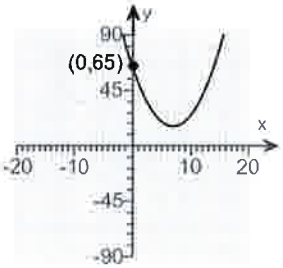
Choose the correct graph below.

A. 

B. 

C. 

Answers $7-4i, 7+4i$



A.

ID: 2.7.13

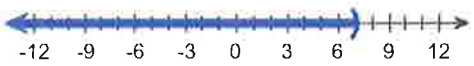
88. Solve the following inequality. Graph the solution set.

$6x - 2 > 40$

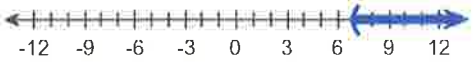
The solution is [ ].

(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

Choose the graph of the inequality below.

A. 

B. 

C. 

D. 

Answers (7,∞)

C. 

ID: 2.8.4

89. Find $f(-8)$ if $f(x) = 4x^2 + 5x + 9$.

$f(-8) =$ [ ] (Simplify your answer. Type an integer or a fraction.)

Answer: 225

ID: 3.2.1

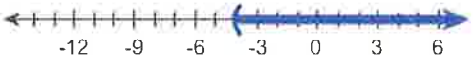
90. Solve the inequality. Express your answer using set notation or interval notation. Graph the solution set.

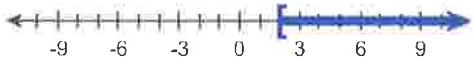
$11 - 2x \le 7$

Choose the correct answer below that is the solution set to the inequality.

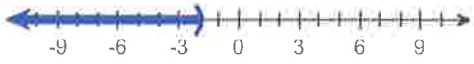
- A. $\{x|x \ge -4\}$ or $[-4, \infty)$
- B. $\{x|x \ge 2\}$ or $[2, \infty)$
- C. $\{x|x \le 2\}$ or $(2, \infty)$
- D. $\{x|x \ge -2\}$ or $[-2, \infty)$

Choose the correct graph below that is the solution set to the inequality.

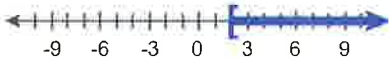
A. 

B. 

C. 

D. 

Answers B. $\{x|x \ge 2\}$ or $[2, \infty)$

B. 

ID: 3.6.1

91. Evaluate the following expression, if possible.

$9^{3/2}$

Select the correct choice below and fill in any answer boxes in your choice.

- A. $9^{3/2} =$ _____
- B. The solution is not a real number.

Answer: A. $9^{3/2} =$ **27**

ID: Quick Check P4.1.10

92. Given $h(x) = 2x^2 - 7x + 5$, find $h(-7)$.

$h(-7) =$ _____

Answer: 152

ID: 4.1.1

93. Solve by using the quadratic formula.

$x^2 - 2x - 15 = 0$

The solution set is { }.
(Simplify your answer. Use a comma to separate answers as needed. Express complex numbers in terms of i. Type an exact answer, using radicals as needed.)

Answer: −3,5

ID: 4.6.1

$1x^2 - 2x - 15 = 0$

$a=1,\ b=-2,\ c=-15$

$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$ formula

$x = \frac{-(-2) \pm \sqrt{(-2)^2-4(1)(-15)}}{2(1)}$

$x = \frac{2 \pm \sqrt{4+60}}{2}$

$x = \frac{2 \pm \sqrt{64}}{2}$

$x = \frac{2 \pm 8}{2}$

$x = \frac{2}{2} \pm \frac{8}{2}$

$x = 1 \pm 4$

$x = 1 - 4$ or $x = 1 + 4$

$x = -3$ or $x = 5$

Value: 1 ticket
Value: 1 ticket
IN THE SEA ON A PIZZA

SMART Bird 5-10-17

$\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$, $\frac{2}{4} \times \frac{3}{3} = \frac{6}{12}$

MATH IS FUN

$\frac{4}{12} + \frac{6}{12} = \frac{10}{12} = \frac{5}{6}$

$\frac{12}{12} - \frac{10}{12} = \frac{2}{12}$ or $\frac{1}{6}$

Math Math Math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MATH is
FUN


MATH
MATH
MATH is Fun

(Exponential growth)

090316w