

MAT0022C and MAT0028C

Find the GCF for the list.

1) 16, 10

1) _____

2) $15m^5, 135m^9$

2) _____

3) $88x^2, 44x^7$

3) _____

Factor the trinomial completely. If the polynomial cannot be factored, write "prime."

4) $x^2 - 8x - 20$

4) _____

5) $x^2 - 3x - 40$

5) _____

Factor the four-term polynomial by grouping.

6) $xy + 6x - 3y - 18$

6) _____

7) $xy - 2yz + 7x - 14z$

7) _____

8) $10x^2 - 8x - 15x + 12$

8) _____

Factor the trinomial completely.

9) $8x^2 + 17x - 21$

9) _____

10) $16y^2 - 24y + 9$

10) _____

11) $12x^2 - 7x - 12$

11) _____

12) $x^2 + 12x + 36$

12) _____

13) $36x^2 - 60x + 25$

13) _____

Factor the binomial completely.

14) $4x^2 - 25$

14) _____

15) $25x^2 - 64y^2$

15) _____

16) $x^4 - 625$

16) _____

Solve the equation.

17) $x^2 + 7x - 60 = 0$

17) _____

18) $x^2 - 13x = -40$

18) _____

Translate to an equation and solve.

19) 75% of 84 is what number?

19) _____

20) 90 is what percent of 60?

20) _____

21) 125% of what number is 75?

21) _____

Solve.

22) A \$230 painting is on sale at 5% off. Find the sale price.

22) _____

Solve. If needed, round money amounts to two decimal places and all other amounts to one decimal place.

23) Students at Maple School earned \$408 selling candles. They want to accumulate \$2000 for a club trip. What percent of their goal has been reached?

23) _____

Substitute the given values into the formula and solve for the unknown variable.

24) $P = 2L + 2W$; $P = 24$, $W = 6$

24) _____

Solve.

25) You have taken up gardening for relaxation and have decided to fence in your new rectangular shaped masterpiece. The length of the garden is 2 meters and 48 meters of fencing is required to completely enclose it. What is the width of the garden?

25) _____

Translate the question into a proportion. Do not solve.

26) 7% of what number is 43.3?

26) _____

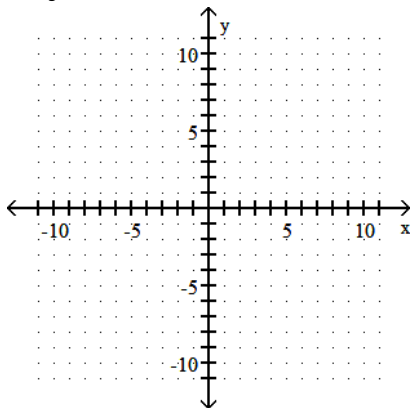
27) 38.8 is 65% of what number?

27) _____

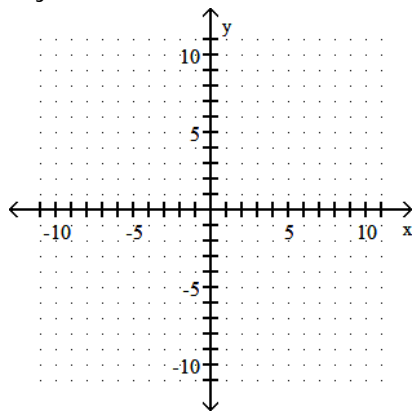
Graph the linear equation by finding and plotting its intercepts.

28) $x + y = -2$

28) _____



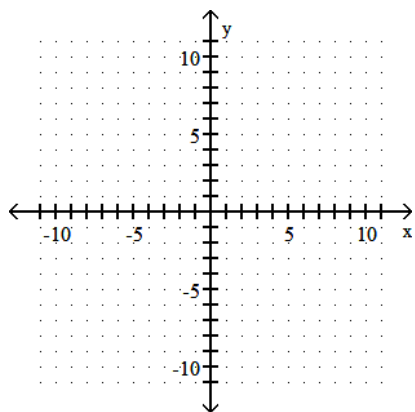
29) $16y - 4x = -8$



29) _____

Graph the equation.

30) $y = \frac{2}{5}x - 1$



30) _____

Find the slope of the line.

31) $y = -8x - 10$

31) _____

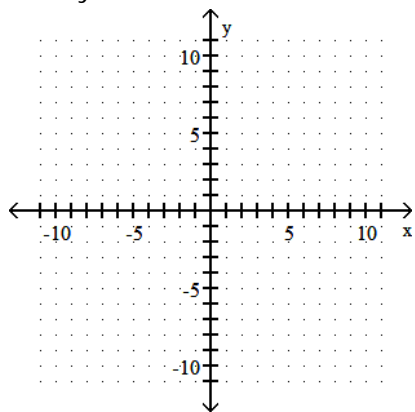
Find the slope of the line that passes through the points.

32) $(-9, -5)$ and $(8, 7)$

32) _____

Graph.

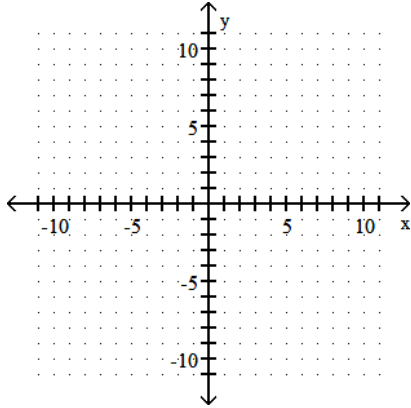
33) $-x + 2y = -7$



33) _____

Graph the linear equation by finding and plotting its intercepts.

34) $x + y = -5$



34) _____

Find the x- and y- intercepts.

35) $4x + 5y = 20$

35) _____

Multiply.

36) $(-3m^2z^4)(2m^2z^2)$

36) _____

Combine like terms.

37) $6m^2 + 10m - 17m^2 + 5m$

37) _____

38) $9x^5 + 4x^4 - 3x^5$

38) _____

Add and write the resulting polynomial in descending order of degree.

39) $(9x + 6) + (-11x + 4)$

39) _____

Subtract the polynomials.

40) $(4x^7 - 8x^6 - 5) - (2x^7 + 11x^6 + 19)$

40) _____

Simplify.

41) $(-3xy^4)^4$

41) _____

Multiply the binomials using FOIL.

42) $(4x + 4)(x - 3)$

42) _____

Multiply using the rules for special products.

43) $(3a - 4)^2$

43) _____

Simplify.

44) $(-3a^6b^4)^3$

44) _____

Multiply using the rules for special products.

45) $(3m + 1)^2$

45) _____

Simplify. Assume variables represent nonnegative values.

46) $\sqrt{48x^2y}$

46) _____

47) $\sqrt{108x^2}$

47) _____

Simplify. Assume that all variables represent positive numbers.

48) $\sqrt{49x^{13}}$

48) _____

49) $\sqrt{\frac{32y^5}{49x^8}}$

49) _____

Add or subtract by first simplifying each radical and then combining any like radical terms. Assume that all variables represent positive real numbers.

50) $4\sqrt{5} - 7\sqrt{20}$

50) _____

51) $\sqrt{48} - 10\sqrt{243} - 9\sqrt{12}$

51) _____

Solve the equation for the indicated variable.

52) $A = P + Prt$ for T

52) _____

53) $V = \frac{1}{3}Ah$ for h

53) _____

Solve the equation.

54) $3x = 4(x + 4) - 5$

54) _____

55) $-4(x + 3) - 36 = -14 - 10$

55) _____

Solve.

56) $\frac{6}{5}x = -\frac{1}{2} - \frac{3}{5}$

56) _____

57) $\frac{a}{3} - \frac{1}{3} = -5$

57) _____

58) $\frac{5}{3} - \frac{x}{5} = \frac{13}{15}$

58) _____

Solve the equation.

59) $7x - 7 = 5x - 8$

59) _____

60) $1.4x - 3.1 = 0.7x - 1.98$

60) _____

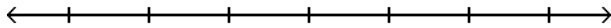
61) $-0.7x + 1.15 = -0.4x + 2.05$

61) _____

Solve the inequality. Graph the solution set and write it in interval notation.

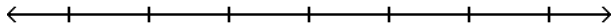
62) $-\frac{1}{5}x < 6$

62) _____



63) $24x + 28 \leq 4(5x + 11)$

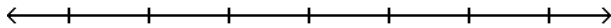
63) _____



Solve the inequality.

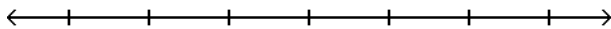
64) $-5(6y + 3) < -35y + 30$

64) _____



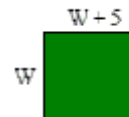
65) $\frac{y}{5} > 6$

65) _____



66)

A fence is to be installed around a rectangular field. The field's perimeter is 210 feet. The length of the field is 5 feet more than the width, find the length.



67)

A county assesses annual property taxes at a rate of 4% of the appraised value of the property. A property is appraised for \$120,000. What are the annual property taxes?

68)

Television sets. What does it mean to refer to a 20-in TV set or a 25-in TV set? Such units refer to the diagonal of the screen. A 15-in TV set also has a width of 12 inches. What is its height?

Television sets. What does it mean to refer to a 20-in TV set or a 25-in TV set? Such units refer to the diagonal of the screen. A 20-in TV set also has a width of 16 inches. What is its height?

69)

People drive, on average, 11,400 miles per year. About how many miles each week is that?

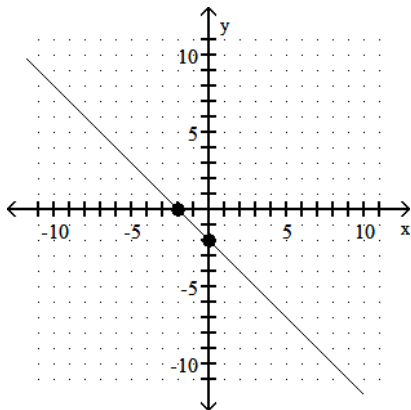
70)

A woman earns \$2600 per month and budgets \$338 per month for food. What percent of her monthly income is spent on food?

Answer Key

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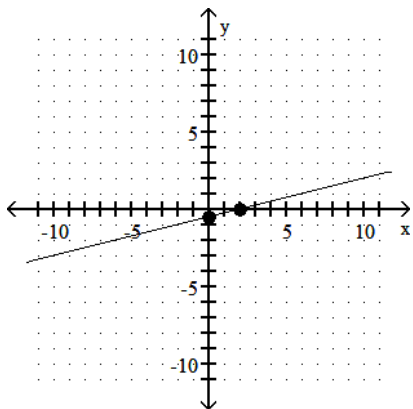
- 1) 2
- 2) $15m^5$
- 3) $44x^2$
- 4) $(x - 10)(x + 2)$
- 5) $(x - 8)(x + 5)$
- 6) $(y + 6)(x - 3)$
- 7) $(y + 7)(x - 2z)$
- 8) $(2x - 3)(5x - 4)$
- 9) $(x + 3)(8x - 7)$
- 10) $(4y - 3)(4y - 3)$
- 11) $(4x + 3)(3x - 4)$
- 12) $(x + 6)^2$
- 13) $(6x - 5)^2$
- 14) $(2x + 5)(2x - 5)$
- 15) $(5x + 8y)(5x - 8y)$
- 16) $(x^2 + 25)(x + 5)(x - 5)$
- 17) -12, 5
- 18) 8, 5
- 19) 63
- 20) 150%
- 21) 60
- 22) \$218.50
- 23) 20.4%
- 24) 6
- 25) 22 m
- 26) $\frac{43.3}{b} = \frac{7}{100}$
- 27) $\frac{38.8}{b} = \frac{65}{100}$
- 28) $(-2, 0), (0, -2)$



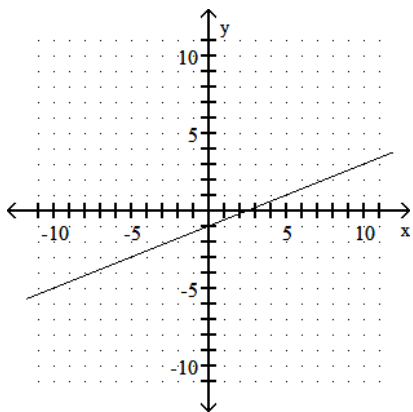
Answer Key

Testname: 22_28FER1

29) $(0, -\frac{1}{2}), (2, 0)$



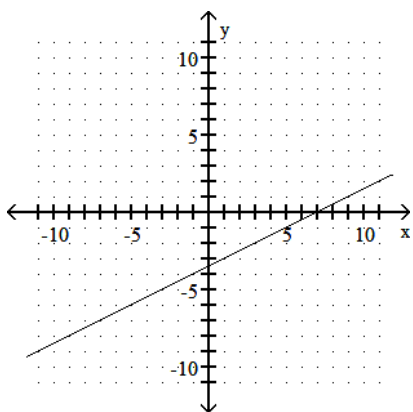
30)



31) $m = -8$

32) $\frac{12}{17}$

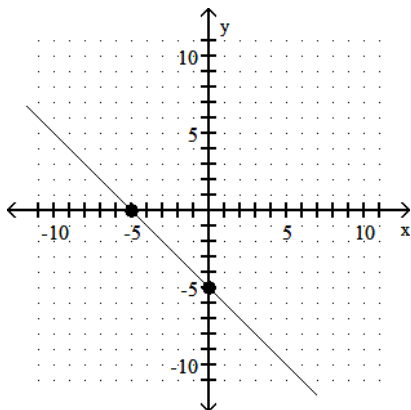
33)



Answer Key

Testname: 22_28FER1

34)



35) $(5, 0), (0, 4)$

36) $-6m^4z^6$

37) $-11m^2 + 15m$

38) $x^5 + 4x^4$

39) $-2x + 10$

40) $2x^7 - 19x^6 - 24$

41) $81x^4y^{16}$

42) $4x^2 - 8x - 12$

43) $9a^2 - 24a + 16$

44) $-27a^{18}b^{12}$

45) $9m^2 + 6m + 1$

46) $4x\sqrt{3y}$

47) $6x\sqrt{3}$

48) $7x^6\sqrt{x}$

49) $\frac{4y^2\sqrt{2y}}{7x^4}$

50) $-10\sqrt{5}$

51) $-104\sqrt{3}$

52) $T = \frac{A - P}{PR}$

53) $h = \frac{3V}{A}$

54) -11

55) -6

56) $-\frac{11}{12}$

57) -14

58) 4

59) -0.5

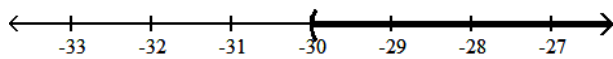
60) 1.6

61) -3

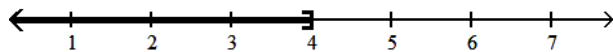
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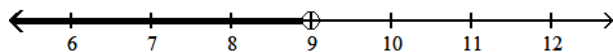
62) $(-30, \infty)$



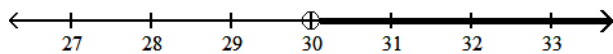
63) $(-\infty, 4]$



64) $\{y \mid y < 9\}$



65) $\{y \mid y > 30\}$



- 66)
- 67)
- 68)
- 69)
- 70)