

Subtract the fractions. Write the answer in lowest terms.

1) $\frac{4}{5} - \frac{3}{20}$

1) _____

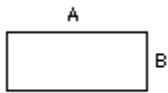
A) $\frac{7}{10}$

B) $\frac{1}{20}$

C) $\frac{13}{20}$

D) $\frac{3}{5}$

Find the area of the figure. Write the answer in lowest terms. (The area of a rectangle is the product of its length and width.)



2)

$A = \frac{4}{13}$ foot $B = \frac{1}{2}$ foot

2) _____

A) $\frac{2}{13}$ sq. foot

B) $\frac{4}{26}$ sq. foot

C) $\frac{1}{3}$ sq. foot

D) $\frac{4}{15}$ sq. foot

Divide the fractions. Write the answer in lowest terms.

3) $21 \div \frac{7}{2}$

3) _____

A) 7

B) 6

C) 5

D) $\frac{9}{2}$

Solve the problem.

4) The temperature at 5:00 was -5°C . Four hours later, it was -15°C . What was the change in temperature?

4) _____

A) 10°C

B) -10°C

C) 20°C

D) -20°C

Evaluate the expression, given $x = -2$, $y = 3$, and $a = -4$.

5) $-7x + 5y - 9a$

5) _____

A) 5

B) -33

C) 61

D) 65

Use the power rule and/or the power of a product or quotient rules to simplify the expression.

6) $(-2xy)^5$

6) _____

A) $-32x^5y^5$

B) $-10x^5y^5$

C) $-32xy$

D) $-10xy$

Solve the equation.

7) $-0.20(30) + 0.40x = 0.20(30 + x)$

7) _____

A) 60

B) 50

C) 30

D) 70

Identify the polynomial as a monomial, binomial, trinomial, or none of these. Give its degree.

8) $-5s^7 - 2s - 9$

8) _____

A) Trinomial, degree 9

B) Binomial, degree 8

C) Trinomial, degree 8

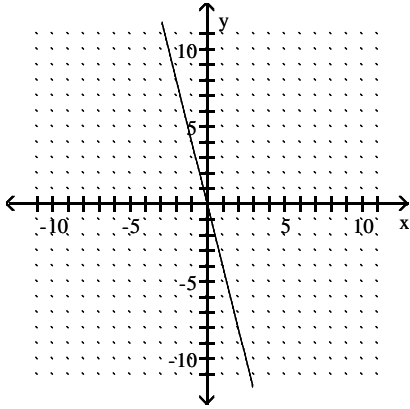
D) Trinomial, degree 7

Match the graph with the equation.

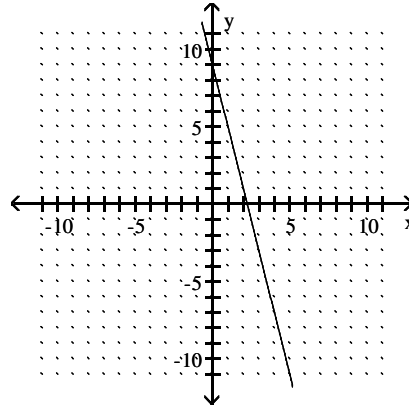
9) $y = -4x + 9$

9) _____

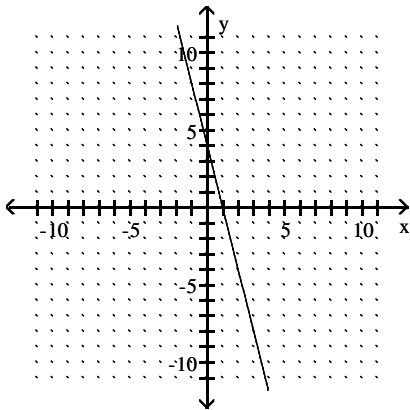
A)



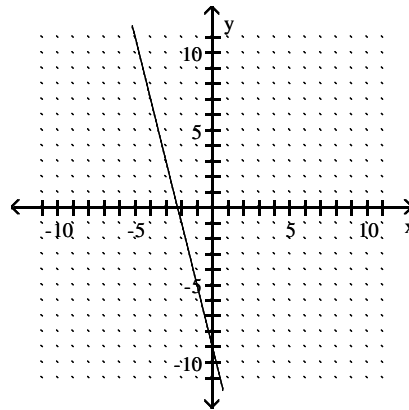
B)



C)



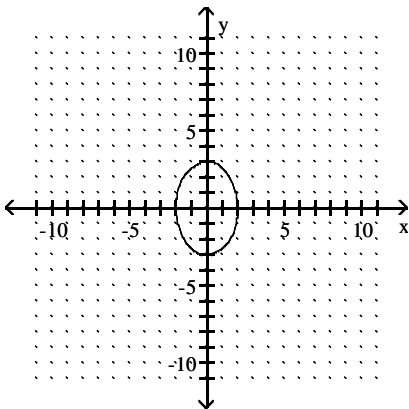
D)



Identify the intercepts.

10)

10) _____



A) (0, 3), (0, -3)

B) (3, 0), (-3, 0), (0, 2), (0, -2)

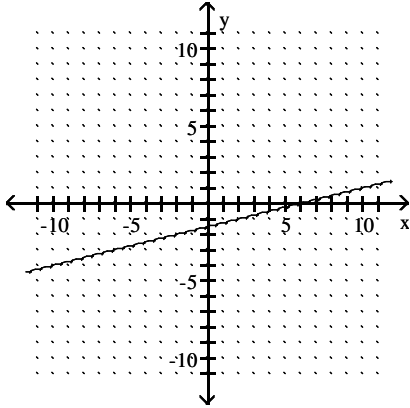
C) (2, 0), (-2, 0)

D) (2, 0), (-2, 0), (0, 3), (0, -3)

Find the slope of the line if it exists.

11)

11) _____



A) -4

B) $-\frac{1}{4}$

C) 4

D) $\frac{1}{4}$

Solve.

12) Find the slope of a line parallel to the line passing through $(-3, -5)$ and $(2, 1)$.

12) _____

A) $\frac{1}{2}$

B) $\frac{5}{6}$

C) $\frac{6}{5}$

D) 2

Use the quotient rule to simplify each expression.

13) $\frac{s^9t^{11}}{s^2t}$

13) _____

A) $s^{11}t^{12}$

B) s^7t^{11}

C) s^7t^9

D) s^7t^{10}

Perform the indicated operations.

14) $8z - (18 - 4z)$

14) _____

A) $12z - 18$

B) $12z + 18$

C) $4z + 18$

D) $4z - 18$

Find the product.

15) $-3x^3(2x - 4)$

15) _____

A) $-6x + 12$

B) $-6x^4 + 12x^3$

C) $6x^3$

D) $-6x^4 - 4$

16) $(8m + 5)^2$

16) _____

A) $8m^2 + 25$

B) $64m^2 + 25$

C) $64m^2 + 80m + 25$

D) $8m^2 + 80m + 25$

Simplify the expression. Write the result using positive exponents only.

17) $\frac{y^{-6}}{y^4}$

17) _____

A) $\frac{1}{y^2}$

B) $\frac{1}{y^{24}}$

C) $\frac{1}{y^{10}}$

D) y^{10}

Factor as completely as possible. If unfactorable, indicate that the polynomial is prime.

18) $x^2 + 59x + 60$ 18) _____
A) Prime B) $(x + 60)(x - 1)$ C) $(x + 12)(x - 5)$ D) $(x - 12)(x + 5)$

19) $x^2 - 15x + 225$ 19) _____
A) $(x + 15)(x - 15)$ B) $(x + 15)^2$ C) $(x - 15)^2$ D) Prime

Factor as completely as possible. If unfactorable, indicate that the polynomial is prime.

20) $z^2 - 64$ 20) _____
A) $(x - 8)^2$ B) Prime C) $(z + 8)(z - 8)$ D) $(x + 8)^2$

Perform the division.

21) $\frac{18x^7 - 15x^5}{-3x^7}$ 21) _____
A) $-6 + \frac{5}{x^2}$ B) $-6 + 5x^2$ C) $18x^7 + \frac{5}{x^2}$ D) $-6 - 15x^5$

Simplify.

22) $\frac{2 + (-5)^2 + 6 \cdot 6}{6 \cdot (7 - 5)}$ 22) _____
A) $\frac{21}{4}$ B) 2 C) $\frac{78}{37}$ D) 0

Write the ratio in fractional notation in lowest terms.

23) 13 minutes to 5 hours 23) _____
A) $\frac{13}{5}$ B) 156 C) $\frac{13}{60}$ D) $\frac{13}{300}$

Solve the equation.

24) $\frac{x + 2}{3} = \frac{x + 3}{4}$ 24) _____
A) 1 B) $\frac{5}{7}$ C) $\frac{1}{12}$ D) $\frac{5}{12}$

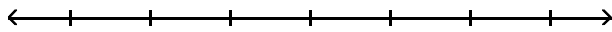
Solve the problem using a known formula.

25) Jim runs one time around a circular track that has a radius of 9 kilometers, and Chris runs two times around a circular track with a radius of 5 kilometers. Who ran the farther distance? (Use 3.14 as an approximation for π .) 25) _____
A) Jim and Chris both ran the same distance.
B) Jim ran a farther distance.
C) Chris ran a farther distance.

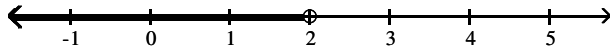
Solve the inequality, then graph the solution.

26) $9n - 11 > 8n - 9$

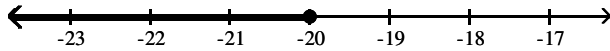
26) _____



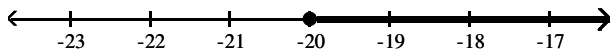
A) $n < 2$



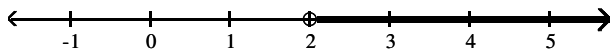
B) $n \leq -20$



C) $n \geq -20$



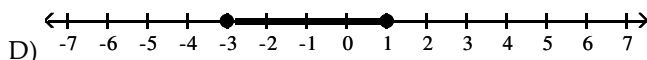
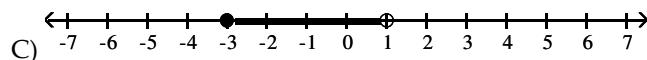
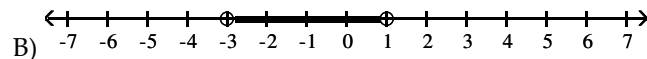
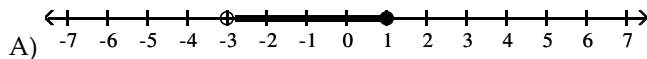
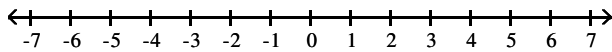
D) $n > 2$



Graph the inequality.

27) $-3 < x < 1$

27) _____



Simplify the expression.

28) $\frac{(y + 9)(y - 2)}{(y - 2)(y + 7)}$

28) _____

A) $\frac{2y - 2}{2y + 5}$

B) $\frac{y + 9}{y + 7}$

C) $\frac{y + 2}{y + 5}$

D) $\frac{y - 9}{y - 7}$

Multiply. Simplify if possible.

29) $\frac{8p - 8}{p} \cdot \frac{3p^2}{9p - 9}$

29) _____

A) $\frac{24p^3 - 24p^2}{9p^2 - 9p}$

B) $\frac{72p^2 + 144p + 72}{3p^3}$

C) $\frac{8p}{3}$

D) $\frac{3}{8p}$

Solve the equation for the specified variable.

30) The gas law: $\frac{PV}{T} = \frac{Pv}{t}$; for P 30) _____

- A) $P = \frac{pvV}{tT}$ B) $P = \frac{pvT}{tV}$ C) $P = \frac{tvT}{pV}$ D) $P = \frac{PV}{tTV}$

Given the following prices charged for various sizes of an item, find the best buy.

31) Candy bars: 31) _____

3-pack for \$1.07

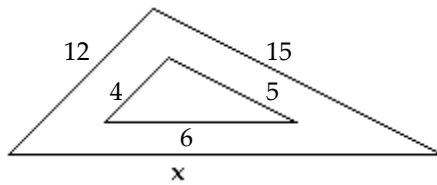
5-pack for \$1.89

10-pack for \$3.76

- A) 10-pack for \$3.76 B) 3-pack for \$1.07 C) 5-pack for \$1.89

Find the missing length in the similar triangles.

32) 32) _____



- A) $x = 6$ B) $x = 24$ C) $x = 20$ D) $x = 18$

Use the slope-intercept form of the linear equation to write an equation of the line with the given slope and y-intercept.

33) Slope $\frac{7}{4}$; y-intercept (0, -4) 33) _____

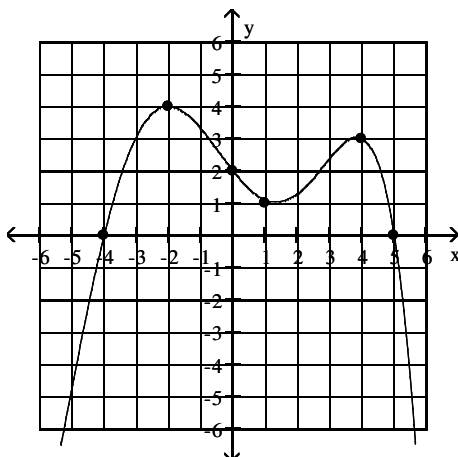
- A) $y = \frac{7}{4}x - 4$ B) $y = -\frac{7}{4}x - 4$ C) $y = \frac{7}{4}x + 4$ D) $y = -\frac{7}{4}x + 4$

Use the point-slope form of the linear equation to find an equation of the line with the given slope and passing through the given point. Write the equation in standard form.

34) Slope -5; through (-9, -4) 34) _____

- A) $5x + y = -29$ B) $5x + y = -4$ C) $5x + y = -49$ D) $5x + y = 49$

Answer the question about the given graph. Assume that the graph continues without end



35) Between $x = 2$ and $x = 6$, find the coordinates of the point with the greatest y-value. 35) _____

- A) (4, 3) B) There is no such point.
C) (5, 0) D) (-2, 4)

Decide whether or not the ordered pair is a solution of the system.

36) $(3, 2)$

$$3x + y = 11$$

$$2x + 3y = 12$$

A) No

B) Yes

36) _____

Solve the problem.

37) One number is four more than a second number. Two times the first number is 10 more than four times the second number. What are the two numbers?

A) -9 and -13

B) 2 and -2

C) 3 and -1

D) 4 and 0

37) _____

Simplify. Assume that all variables represent positive real numbers.

38) $\sqrt{y^{13}}$

A) $\sqrt{y^{13}}$

B) $y\sqrt{y^{11}}$

C) $y^6\sqrt{y}$

D) $y^{12}\sqrt{y}$

38) _____

Multiply and simplify. Assume that all variables represent positive real numbers.

39) $\sqrt{2} \cdot \sqrt{16}$

A) 4

B) $\sqrt{32}$

C) $4\sqrt{2}$

D) $\sqrt{8}$

39) _____

Find the product.

40) $(x - 11)(x^2 + 2x - 4)$

A) $x^3 - 9x^2 - 18x - 44$

B) $x^3 - 9x^2 - 26x + 44$

C) $x^3 + 13x^2 + 18x - 44$

D) $x^3 + 13x^2 + 26x + 44$

40) _____

Answer Key

Testname: PRACTICE TEST 4

- 1) C
- 2) A
- 3) B
- 4) B
- 5) D
- 6) A
- 7) A
- 8) D
- 9) B
- 10) D
- 11) D
- 12) C
- 13) D
- 14) A
- 15) B
- 16) C
- 17) C
- 18) A
- 19) D
- 20) C
- 21) A
- 22) A
- 23) D
- 24) A
- 25) C
- 26) D
- 27) B
- 28) B
- 29) C
- 30) B
- 31) B
- 32) D
- 33) A
- 34) C
- 35) A
- 36) B
- 37) C
- 38) C
- 39) C
- 40) B