

Algebra I Problem Set 11

Simplify:

1. $2.007 \cdot 1.5$

2. $(3)(3.036)$

3. $(1.7)(8.01)$

4. $9.014 \cdot 0.52$

5. $6004 \div 0.2$

6. $9.15 \div 0.03$

7. $21.685 \div 5$

8. $150.04 \div 0.242$

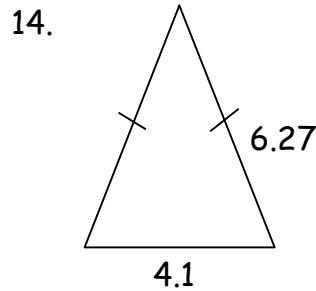
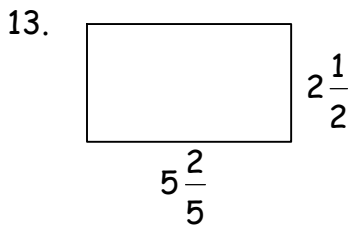
9. $5 + 2 \cdot 7 - 6 \cdot 8$

10. $\frac{4 \cdot 3 - 3 \cdot 6}{-3 \cdot 1 + 4 \cdot 2}$

11. $\frac{8 - 7(3)}{-3 + 2(6)}$

12. $21 \div 3 - 5 \cdot 2 - 3(-5)$

Find the perimeter of each of the following figures. Dimensions are in meters.



Solve each equation:

15. $6.2x = 31$

16. $8d = 34.4$

17. $0.02m = 0.3$

18. $\frac{p}{8} = 1.7$

19. $\frac{h}{3.1} = .04$

20. $\frac{4}{7}y = \frac{9}{14}$

21. $\frac{2}{3}z = 4\frac{1}{2}$

22. $6k = -48$

23. $-10m = -200$

24. $x + 90 = -40$

25. $t + 7.35 = -1.2$

26. $x - 4.1 = 9.3$

27. $y - 1\frac{1}{7} = 1\frac{1}{5}$

28. $1\frac{1}{4} + z = 6$

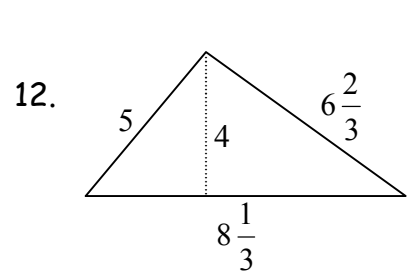
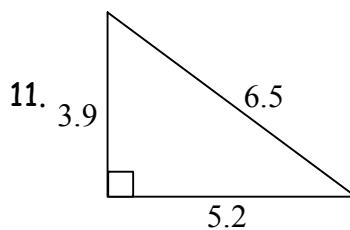
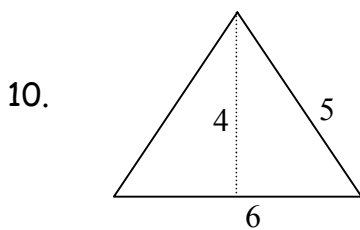
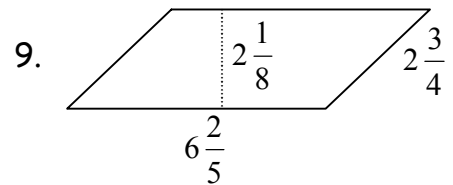
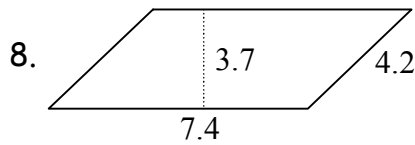
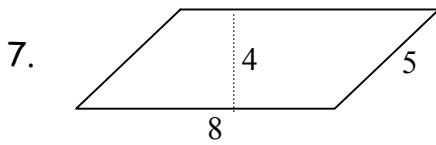
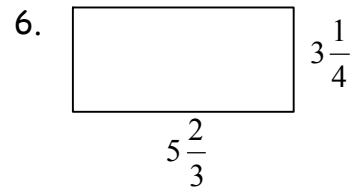
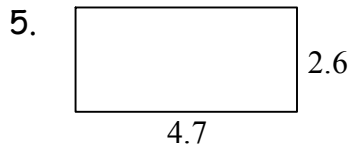
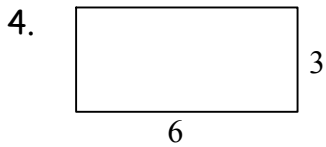
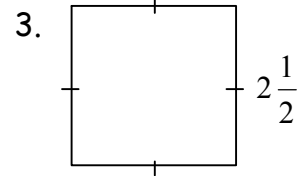
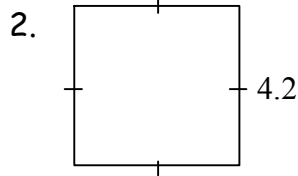
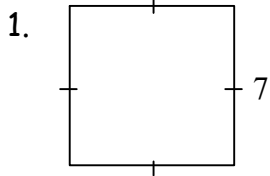
29. $y - \frac{3}{4} = \frac{9}{10}$

Simplify:

30. $-4 + 6 - 1 + 8 + 4$

Algebra I Problem Set 12

Find the perimeter and the area of each polygon. All dimensions are in centimeters.



Simplify:

13. $-3.7(4)$

14. $3.7 \div 4$

15. $(-6.3)(-2.7)$

16. $11.34 \div 2.7$

17. $1.063(-0.03)$

18. $\frac{0.00756}{0.036}$

19. $6 \cdot 7 - 3 \cdot 5$

20. $3 \cdot 5 - 2 \cdot 6 + 8(4)$

21. $12 \div 3 + 4 \cdot 6 - 5$

22. $-3(5)(-1)(-2)$

23. Graph each of the following points, and then draw a line through the points.

$(-7, 8), (-4, 6), (-1, 4), (2, 2), (5, 0), (8, -2)$

Solve each equation:

24. $t - 3.4 = 7.2$

25. $x + 7.5 = 3.2$

26. $7y = 16.17$

27. $7.2z = 3.6$

28. $\frac{3}{5}s = \frac{7}{10}$

29. $2\frac{1}{4}p = \frac{3}{4}$

30. $-7x = -28$

Algebra I Problem Set 13

Simplify:

1a) $-|25|$

b) $-|-16|$

2a) $-|30|+|-40|$

b) $|-50|-|-35|$

3. $6-(8-2)$

4. $(8-6)(3-7)$

5. $|4|-(-3-7)+9$

6. $(3 \cdot 8)-(-4 \cdot 2)$

7. $\frac{9(2-3)}{(-3+4) \cdot 2}$

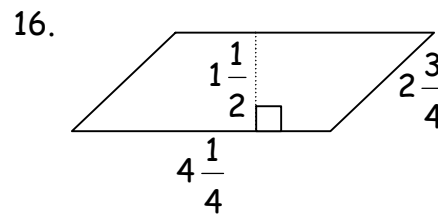
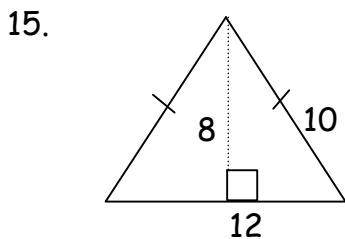
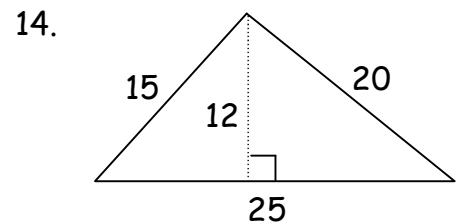
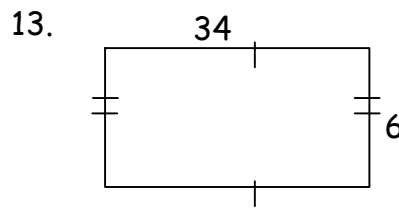
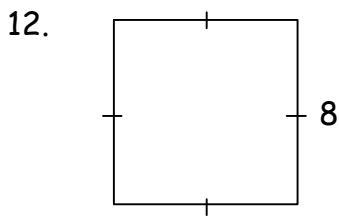
8. $\frac{|-4|8}{-4+5(4)}$

9. $(-4-3)(-8-2)-9$

10. $3 \cdot 2+|-4 \cdot 3|-(-3-2)$

11. $2+3|-4 \cdot 2|-(-3+5)$

Find the perimeter and the area of each of the following figures. Dimensions are in centimeters.



Solve each equation:

17. $0.02m = 1.2$

18. $\frac{x}{1.2} = 2.4$

19. $0.4g = -3.2$

20. $3\frac{3}{4}x = 5$

21. $\frac{4}{7}y = \frac{14}{2}$

22. $\frac{m}{10} = -6$

23. $y - \frac{3}{8} = -\frac{3}{4}$

24. $y - 4\frac{7}{9} = 3\frac{2}{3}$

25. $5\frac{5}{7} + z = 4\frac{1}{3}$

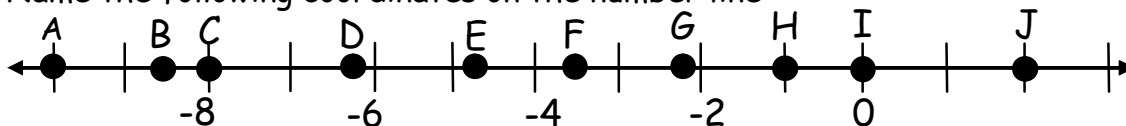
Simplify:

26. $4 \cdot 9 - 7 \cdot 2$

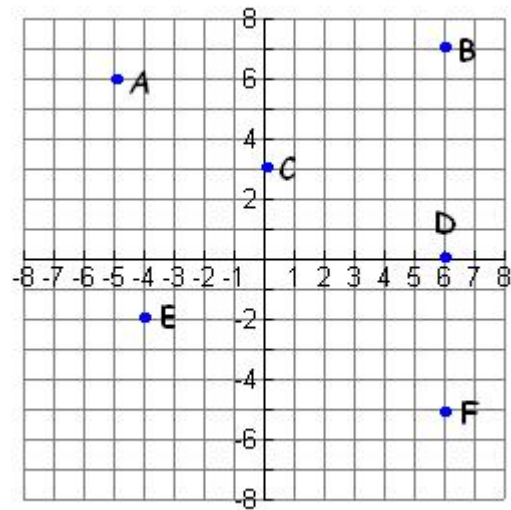
27. $6 \cdot 5 - 2 \cdot 7 - 9 + 2$

28. $6 - 8(2) + 4 \cdot 7 - 5$

29. Name the following coordinates on the number line:



30. Give the coordinates of each labeled point on the Cartesian coordinate system:



Algebra I Problem Set 14

Simplify:

- | | | | | | | |
|--------------------------|--|----------------------------------|-----------------|---------------|-----------------|----------------|
| 1a) 4^2 | b) 6^2 | c) 10^2 | d) 1^2 | e) 5^3 | f) 3^3 | g) 2^3 |
| 2a) $\sqrt{25}$ | b) $\sqrt{81}$ | c) $\sqrt{9}$ | d) $\sqrt{121}$ | e) $\sqrt{4}$ | f) $\sqrt{225}$ | g) $\sqrt{49}$ |
| 3. $6^2 - \sqrt{64}$ | 4. $\sqrt{25} \cdot \sqrt{81} \cdot 2^2$ | 5. $ -8 - \sqrt{100} + 3^2$ | | | | |
| 6. $(3)(2)^2 - (-4)(2)$ | 7. $\frac{4(1-3)(2+3)}{\sqrt{64}}$ | 8. $\frac{1+(6)(-1)}{-3+2(4)}$ | | | | |
| 9. $(-4+8)^2 - \sqrt{4}$ | 10. $\sqrt{36} - -12 + 12^2$ | 11. $\sqrt{169} + 3 -5 - (3+5)$ | | | | |

Solve:

12. $x + \sqrt{36} = 10$

13. $b - \sqrt{81} = 15$

14. $k - 4^2 = 21$

15. $n + 3^2 = -20$

16. $1\frac{1}{3}x = 8$

17. $2.4y = 20.4$

18. $\frac{w}{5} = -2$

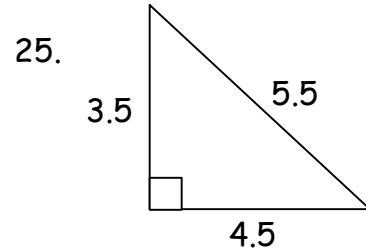
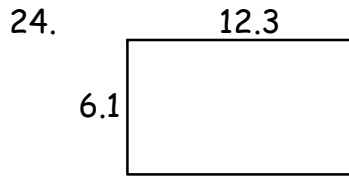
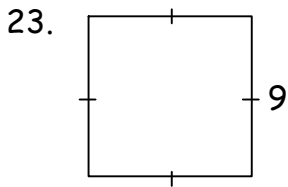
19. $c - 1.7 = 2.34$

20. $p - |-3| = 10$

21. $r + \frac{2}{3} = \frac{1}{2}$

22. $r - \frac{3}{5} = \frac{4}{7}$

Find the perimeter and the area. Dimensions are in feet.



26. Graph and label each of the following coordinates on a number line.

A) -5

B) $4\frac{2}{3}$

C) -2.5

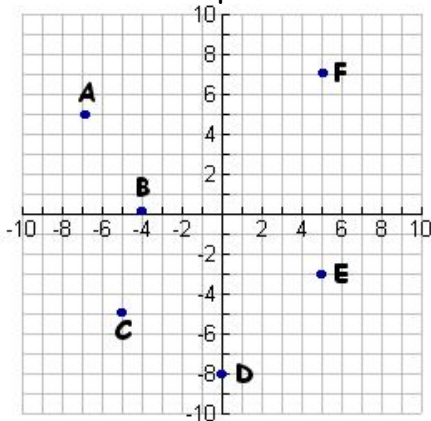
D) $\sqrt{9}$

E) 2^2

F) 1.75

G) $-\frac{3}{5}$

27. Write the coordinates of each labeled point.



28. Graph the following ordered pairs on a Cartesian coordinate system. Name the quadrant or axis that each point is in/on.

A $(-1, 7)$

B $(0, 5)$

C $(6, -5)$

D $(-8, -2)$

E $(3, 0)$

F $(4, 3)$

29. Graph the ordered pairs and connect the points in order. Find the perimeter and area of the rectangle that is formed. $(-4, 7)$, $(2, 7)$, $(2, -3)$, $(-4, -3)$

30. Tell whether each of the following are true or false.

a) $\mathbb{R} \subset \mathbb{N}$

b) $\mathbb{J} \subset \mathbb{W}$

c) $\mathbb{Q} \subset \mathbb{N}$

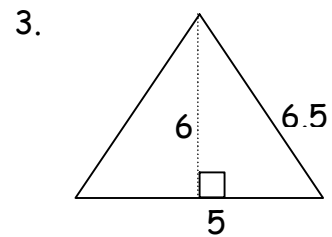
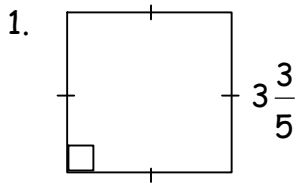
d) $\mathbb{Q} \subset \mathbb{J}$

e) $\mathbb{R} \subset \mathbb{Q}$

f) $\mathbb{W} \subset \mathbb{N}$

Algebra I Problem Set 15

Find the perimeter and the area of each polygon. Dimensions are in inches.



Solve:

4. $2x + 3 = 11$

5. $3y - 5 = 10$

6. $-2z + 2 = -10$

7. $3a - 7 = 11$

8. $5 + 4b = 21$

9. $-9 + 6c = 15$

10. $5a + 2 = 8$

11. $4b + \frac{1}{2} = 3$

12. $-3c - 4 = \frac{2}{3}$

13. $\frac{2}{3}r + 3 = 5\frac{1}{4}$

14. $2\frac{1}{3}s - 7 = 3\frac{3}{4}$

15. $0.4t - 2.6 = -1.5$

16. $3x - |-5| = 16$

17. $2y + |4| = |-9|$

18. $-4z - \left| -2\frac{1}{2} \right| = 3\frac{2}{3}$

Simplify:

19. $5^2 - \sqrt{16} - \sqrt{9}$

20. $\sqrt{121} + \sqrt{81} - 7^2$

21. $8^2 - \sqrt{144} - 5^2$

22. $2 + 3^2 - 6\sqrt{4}$

23. $3^3 - 3 \cdot 4 + \sqrt{36} \cdot 2^2$

24. $4^2 - 2^3 \cdot 3^2 - 8\sqrt{49}$

25. $2(3 + 5) - 3|7| + 7$

26. $3|5| - 3(2 - 4) + |-3|2$

27. $|-6| + |3|(2 - 5) - 6 \cdot 2$

28. $2.37(1.5)$

29. $8.448 \div 0.32$

30. Graph each of the following points, and then draw a line through the points.
 $(-4, 8)$, $(-2, 5)$, $(0, 2)$, $(2, -1)$, $(4, -4)$, $(6, -7)$

Algebra I Problem Set 16

Evaluate each expression if $x = 4$ and $y = 6$.

1. $2x + 3y$

2. $-4x + 7y$

3. $-9y - 3x$

Evaluate each expression if $x = -\frac{1}{3}$ and $y = \frac{2}{5}$.

4. $3x - 5y$

5. $-4y + 9x$

6. $-10y - 7x$

Evaluate each expression if $x = 1.4$ and $y = 2.3$.

7. $2y - x$

8. $5x - 4y$

9. $-3x - 6y$

Simplify:

10. $3^2 - \sqrt{64} + 2^3$

11. $\sqrt{81} - 4^2 - |-6|$

12. $6^2 - 5^2 + \sqrt{36}$

13. $\sqrt{16} - |-12| - 3^3$

14. $\sqrt{64} - 3^2 - 4^2$

15. $|6 - 4 \cdot 5| + 3 - 2 \cdot 5$

Solve each equation:

16. $3x - 4 = 8$

17. $-2x + 9 = -13$

18. $5y - 9 = 31$

19. $15 - 4z = -13$

20. $-8w - 17 = -9$

21. $0.5m - 0.2 = 0.15$

22. $x - |-7| = 53$

23. $m + |-12| = -83$

24. $y + 9.87 = 3.25$

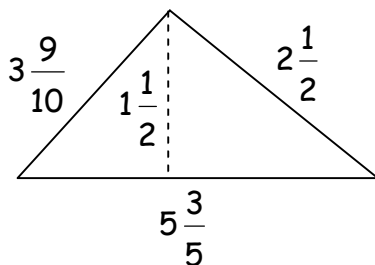
25. $z - 8.59 = -23.8$

26. $\frac{x}{-3} = -4$

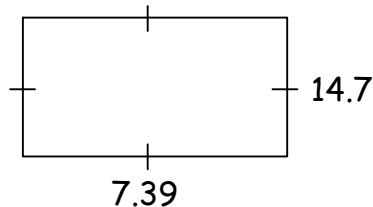
27. $-4x = -20$

Find the perimeter and the area of each polygon. Dimensions are in feet.

28.



29.



30. A rectangle has a height of 8 inches. The length of the rectangle is three times as long as its height. Find the perimeter and the area of the rectangle.

Algebra I Problem Set 17

Graph each equation by making use of a data table:

1. $y = 2x - 5$

2. $y = -3x + 1$

3. $y = x + 1$

4. $y = -x - 5$

5. $y = -2x + 6$

6. $y = \frac{1}{2}x - 2$

7. $y = -\frac{2}{3}x + 1$

8. $y = \frac{3}{4}x - 3$

9. $y = -\frac{1}{3}x - 6$

10. $y = \frac{1}{4}x + 6$

Evaluate:

11. $2x + 3y$ if $x = -2$ and $y = -6$

12. $-4x + 10y$ if $x = -\frac{1}{4}$ and $y = \frac{3}{5}$

13. $2y - x$ if $x = 4.2$ and $y = 6.1$

14. $5x - 4y$ if $x = \frac{4}{5}$ and $y = -5$

Simplify:

15. $5^2 - \sqrt{49} - |5|$

16. $4^3 - |-12| - \sqrt{121}$

17. $2 - 3^2 + 4$

18. $5 - 1^3 + \sqrt{81} - 10$

19. $\sqrt{25} - 2^2 - 4^2$

20. $|-2| - 3^2 + \sqrt{16} - 1 + 2(-3)$

21. $|-9 + 5| - (3 - 7)2$

22. $\frac{3|4| - 5}{4 + 3(2)}$

23. $3 + 2 \cdot 4 - 8 \div 2$

Solve each equation:

24. $5x - 6 = 24$

25. $-3x + 4 = 25$

26. $2m + 6 = -16$

27. $6m + 12 = 42$

28. $-7k - 3 = -31$

29. $\frac{1}{3}d + 6 = 15$

30. A triangle has a height of 8 inches. The base of the triangle is twice as long as its height. Find the area of the triangle.

Algebra I Problem Set 18

Simplify:

1a) -2^2 b) $(-2)^2$ c) -2^3 d) $(-2)^3$

2a) -3^2 b) $(-3)^2$ c) -3^3 d) $(-3)^3$

3a) $(-4)^3$ b) $-(-13)^2$ c) $(-8)^2$ d) -14^2

4a) $-\sqrt{25}$ b) $\sqrt{9}$ c) $\sqrt{169}$ d) $-\sqrt{64}$

5a) $-(-6)^2$ b) $(-4)^2$ c) $(-9)^2$ d) -12^2

Graph each line using a data table:

6a) $y = -2x + 4$

7a) $y = 3x - 6$

8a) $y = -\frac{2}{3}x + 4$

b) $y = x - 5$

b) $y = -x - 2$

b) $y = \frac{3}{4}x - 6$

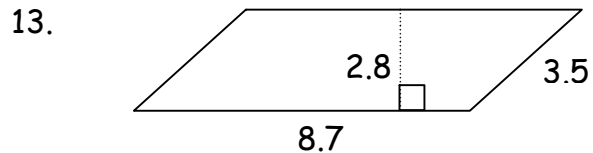
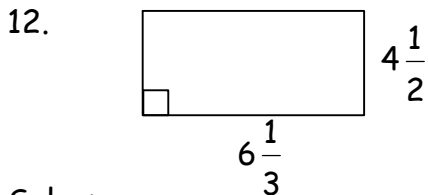
Evaluate:

9. $2x - 3y$ if $x = -3$ and $y = 5$

10. $3x + 5 - 2y$ if $x = \frac{2}{3}$ and $y = -\frac{2}{5}$

11. $\frac{2}{3}x + \frac{1}{4}y - 2$ if $x = 6$ and $y = 12$

Find the perimeter and area of each figure. All dimensions are in centimeters.



Solve:

14. $x - 7 = 10$

15. $y + \frac{1}{4} = \frac{1}{8}$

16. $z - 2\frac{2}{3} = 4\frac{1}{6}$

17. $a - 2.3 = -6.5$

18. $3b = 27$

19. $\frac{2}{5}c = -\frac{8}{15}$

20. $3\frac{1}{4}r = 2\frac{1}{3}$

21. $3s - 7 = 14$

22. $5t + 8 = -32$

23. $\frac{1}{2}x - |-5| = -9$

24. $-4y + 3 = 5\frac{1}{3}$

25. $0.5z - |-3.4| = |5.1|$

Simplify:

26. $(-3)(-2)(4) + 3^2 - \sqrt{16}$

27. $8 - 6(4) - |-8|$

28. $\sqrt{49} - 5(-2) - 2^2$

29. $|-7| - 4^2 - 3(-8)$

30. $6^2 - |2(-8)| - \sqrt{16}$

Algebra I Problem Set 19

Distribute:

1. $3(x + y)$

2. $-5x(3y + 7z)$

3. $-8(2a - 4b)$

Solve:

4. $3(x + 2) = 12$

5. $5(9 - x) = 35$

6. $-2(x - 3) = -4$

7. $-4x - 4 = 8$

8. $\frac{1}{2}x + \frac{3}{4} = -\frac{3}{8}$

9. $0.2m + 0.2 = 1.4$

10. $x - |-9| = -24$

11. $m + |-16| = 132$

12. $0.4x = -0.04$

13. $2\frac{1}{3}x = -1\frac{3}{4}$

Simplify:

14. -2^4

15. $(-3)^3$

16. $-2^3 - (-4)^2$

17. $(-3)^2 - 2^3 + (-4)$

18. $(-2^3) - \sqrt{49} + 12$

19. $3^2 - (4)^2 - \sqrt[3]{8}$

Graph each line using a data table:

20. $y = -4x - 7$

21. $y = \frac{2}{3}x - 5$

22. $y = -\frac{1}{4}x + 8$

Evaluate each expression if $x = -6$ and $y = 5$

23. $2x + 3y$

24. $-4x + 7y$

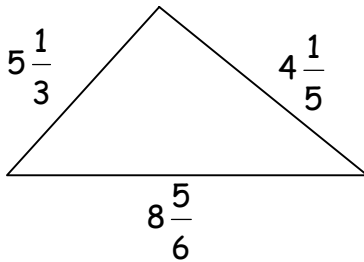
Evaluate each expression if $x = -\frac{2}{3}$ and $y = \frac{3}{5}$

25. $3x - 5y$

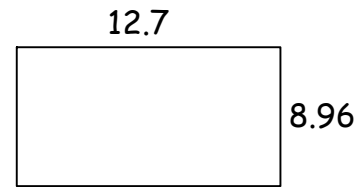
26. $-4y + 9x$

Find the perimeter of each polygon. Dimensions are in feet.

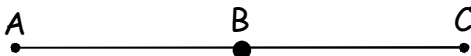
27.



28.



29.



Find BC if $AC = 7\frac{1}{5}$ and $AB = 2\frac{3}{4}$.

Unit are feet.

30. Graph the following points on a Cartesian coordinate system. Connect the points to form a rectangle and then find the perimeter and the area of the rectangle. Units are in feet.

$(6, 5), (-4, 5), (-4, -4), (6, -4)$

Algebra I Problem Set 20

Add Like Terms:

1. $3x + 5x + 1 - 6x$

2. $3h + 2 + 5h - 7$

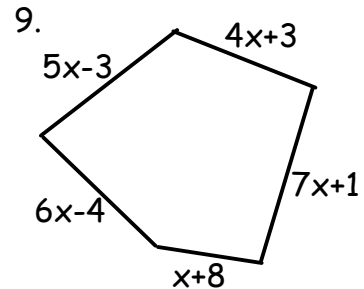
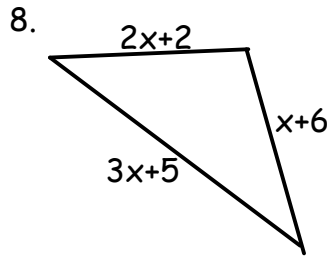
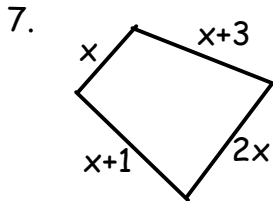
3. $m + 4m + 7m - 2m$

4. $2x + 4y + 5d - 7x - d - 3y$

5. $w + 4c + 5c - 2w + 9w$

6. $-5a + 4b + 8b - 4a - a$

Find the perimeter of each polygon in terms of x :



10. Find the actual perimeter of the pentagon in problem #9 if $x = 4$.

Distribute:

11. $-5(4x - 7y)$

12. $3(2h + 4m)$

13. $-7(8k + 2d)$

Solve:

14. $2x + 6x = 16$

15. $3x - 4 + 7x - 3 = 23$

16. $4k - 8k - 6 = -30$

17. $5(x - 3) = 15$

18. $-2(d + 6) = -14$

19. $3(w - 7) = -27$

20. $x - 6 = -20$

21. $-3m - 6 = -21$

22. $\frac{3}{5}d + \frac{1}{2} = \frac{7}{10}$

23. Graph each line using a data table:

a) $y = 4x + 6$

b) $y = -\frac{1}{4}x - 4$

Simplify:

24. $-3^2 + (-3)^2$

25. $(-4)^2 - 2^3 + |4|$

26. $-4^2 + (-5)^2$

27. $(-1)^2 - 2^2 + (-3) - |-8|$

28. $\frac{2}{3} + \frac{1}{5} + \frac{2}{15}$

29. $3\frac{4}{7} - 1\frac{3}{5}$

30. $\frac{1}{4} + \frac{2}{3} - \frac{5}{6}$