

**Pre-Algebra Problem Set 21**

Name \_\_\_\_\_

Assigned Thursday 2/27, due Friday 3/6.

**No Work Shown, No Credit Given**

Period \_\_\_\_\_

1. Simplify.

a)  $40 - 4(10 - 4)$

b)  $5 + 5 \cdot 3^2 - 2^3$

c)  $20 - 20 \div 2 + 3$

d)  $2(11 - 7)^2$

2. a)  $25\frac{3}{5} + 15\frac{1}{4}$

b)  $32\frac{7}{8} - 12\frac{5}{6}$

c)  $19\frac{2}{3} + 10\frac{11}{12}$

3. a) Find the probability of spinning an even number, as a percent.

b) Find  $P(7)$ . Write your probability as a percent.

c) Find the probability of spinning a number less than 3, as a percent.



4. Imagine a standard deck of cards (52), with all of the aces and twos removed. Find each probability below.

a)  $P(\text{heart})$ b)  $P(\text{black})$ c)  $P(\text{face card})$ d) How is the  $P(\text{face card})$  different with this deck, from the probability if the deck was not missing any cards? Which probability is greater? Why?

5. The Kennedy High School cross-country running team ran the following distances in recent practices: 3.5 miles, 2.5 miles, 4 miles, 3.25 miles, 3 miles, 4 miles, and 6 miles. Find the mean and median of the team's distances.

6. Evaluate the expression  $2x^2 + x + 6$  for the given values of  $x$  below.

a)  $x = 3$

b)  $x = 0$

c)  $x = -4$

d)  $x = \frac{1}{2}$

7. Simplify the following expressions.

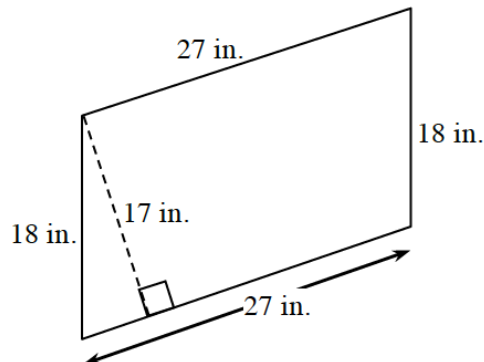
a)  $7x^2 + 3x + 4 + 7x^2 + 3x + 4$

b)  $10 - 3(x - 7) - 2x$

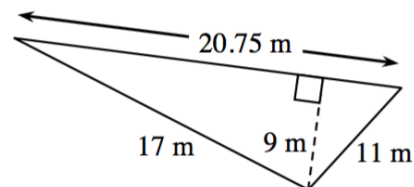
c)  $4(5 - y) - (y - 8)$

8. Find the area of each figure below.

a)



b)

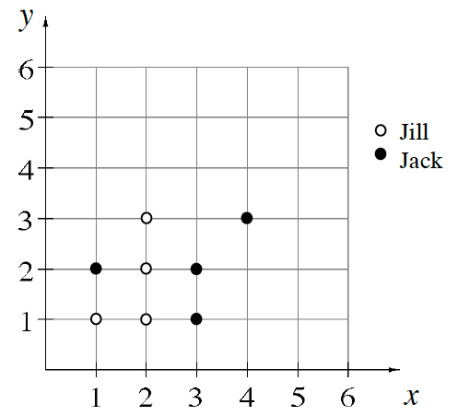


9. Jack and Jill were each placing points on the grid shown below. Jack's points are the full circles, and Jill's are the open circles.

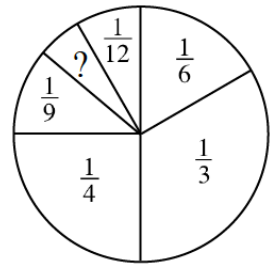
a) List Jack's ordered pairs.

b) List Jill's ordered pairs.

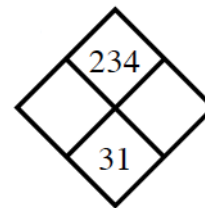
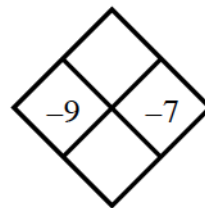
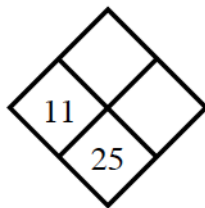
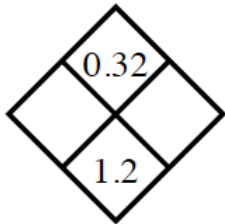
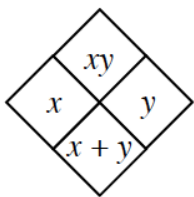
c) Give the coordinates of one more point that Jill could draw so that she has four of her points in a row.



10. Robert found an old game in a closet and wanted to play it. However, a portion of the spinner shown at right could not be read. Find the missing portion of the spinner for Robert.

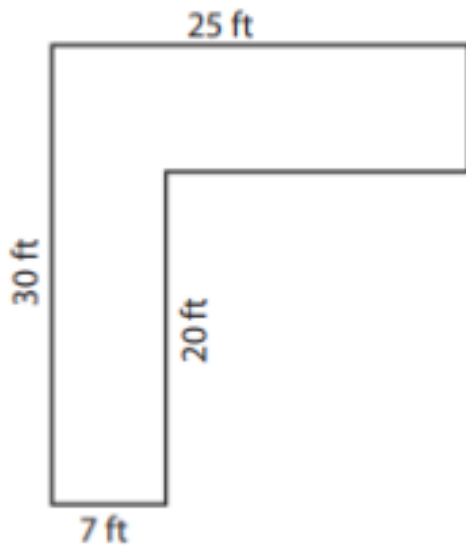


11. Copy and complete each of the Diamond Problems below.



12. Find the area of each composite rectangle.

a)



b)

