Pre-Algebra Problem Set 14   Name_____

Assigned Thursday 12/14, due Friday 1/10/20 (Three weeks due to Winter Break)

No Work Shown, No Credit Given   **Period_____**

Problems #1-#9 can be completed on this paper. The work for #10-#14 needs to be attached on *a separate piece of paper*.

1. Make a portion web for each number.

  a) 129%   **b)** 0.007   **c)** $\frac{5}{6}$ **d)** 3.5%

2. Find the distance between each pair of points if they were graphed on a number line.

a) −11 and 11   **b)** 35 and −28   **c)** −34.5 and −7.2

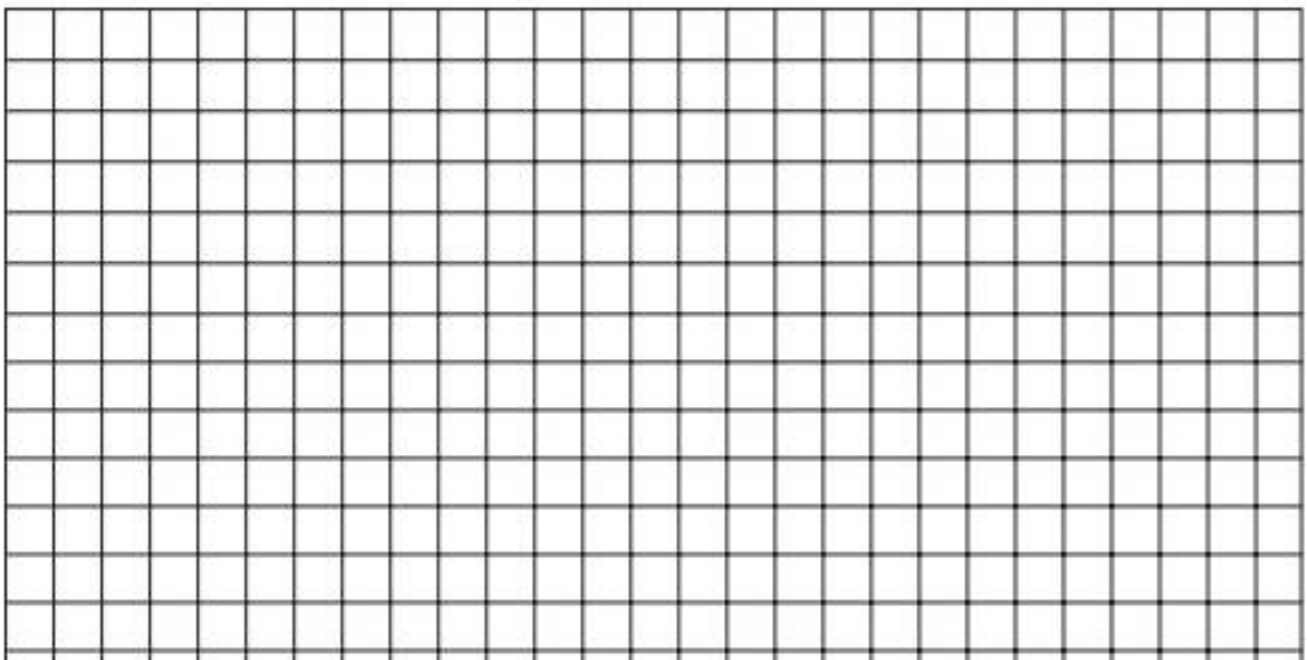**3.** Write the mathematical property that justifies that step.

  a) $5 \cdot (-2) \cdot (3) = (-2) \cdot 5 \cdot (3)$

  b) $17 + 3 + 29 + 1 = (17 + 3) + (29 + 1)$

  c) $7(819) = 7(800) + 7(10) + 7(9)$

  d) $9 \cdot 2 \cdot 5 = 9 \cdot (2 \cdot 5)$

-The work for #4b - #13 needs to be attached on a *separate paper*.-

4. While Mrs. Poppington was visiting the historic battleground at Gettysburg, she talked with the landscapers who were replacing the sod in a park near the visitor center. The part of the lawn being replaced is shown in the diagram below right. Measurements are in yards. The diagram is not drawn to scale, but all corners are right angles

  1. Make a scale drawing of the lawn on the graph paper. Let each $\frac{1}{4}$ inch grid equal 1 yard.

  2. How many square yards of sod will be needed?

  3. At $2.43 a square yard, how much will the sod cost?

  4. The area will be surrounded by a temporary fence which costs $0.25 per linear foot. How many feet will be needed, and how much will it cost?
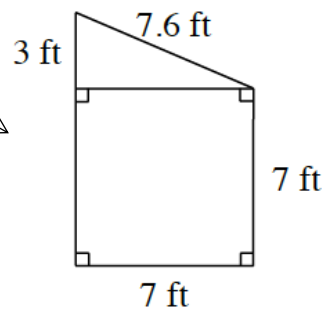
5. Simplify each expression.

a) $-6 - 9$ **b)** $-3 + 4(-2)$ **c)** $4 - 2(-5)$ **d)** $(-7 + 3)(4 - 5 \cdot 2)$

e) $3 - 1 \cdot 4 - 7$ **f)** $64 - 50 \cdot 2$ **g)** $50 - 3(-10) + 2(-20)$ **h)** $(4 + (-170))(5 + (-4))$

6. Paige traveled to Australia and is making her favorite bread recipe. She usually bakes the bread in a 350°F oven. She is surprised to learn that the oven temperatures in Australia are measured in degrees Celsius. Using the formula on the right and the Order of Operations, help Paige determine how she should set the oven in degrees Celsius.

$$\frac{5(F-32)}{9}$$

7. The probability of getting a white marble from a bag is $\frac{1}{5}$. If there are 37 white marbles in the bag, what is the total number of marbles in the bag?

8. a) Find the area of this shape.   **b)** Find the perimeter of this shape.

9. At your first job, you may be amazed to learn that one fourth of your paycheck will go to pay taxes. Suppose the amounts listed in parts (a) through (c) below are the earnings for three employees. Determine how much of each paycheck will go to pay taxes. **a)** $84   **b)** $128   **c)** $210

(figure: shape with labels 7.6 ft, 3 ft, 7 ft, 7 ft)

10. a) $567\frac{5}{8} + 345\frac{2}{3}$ **b)** $456\frac{2}{5} - 234\frac{7}{8}$ **c)** $7\frac{1}{2} \cdot 3\frac{2}{3}$ **d)** $5\frac{1}{3} \div 1\frac{3}{5}$

e) $\frac{2}{3}$ of $1\frac{2}{3}$ **f)** $1\frac{1}{2} \cdot \frac{7}{8}$ **g)** $6 \div 3\frac{1}{2}$ **h)** $3\frac{1}{2} \div 6$

11. Kirk is helping his grandparents set up their new portable music players. His grandmother, Maude, has 1 jazz album, 2 country western albums, and 5 heavy-metal albums. Kirk's grandfather, Claude, has 3 classical albums, 2 rap albums, and 7 heavy-metal albums. If Kirk's grandparents' portable music players are on random shuffle mode, who has the greater chance of listening to a heavy-metal album? *Explain* how you know.

12. Evaluate each expression when a = -4, b = 5, x = -9, and y = -11.

a) $b - x - y$ **b)** $|a - b| + |x - y|$ **c)** $b - 3\frac{7}{12}$

d) ab^2 **e)** $y^2 - y$ **f)** $a + x(b - y)$

13. a) $0.12(3.14)$ **b)** $6.5 \div 0.03$ **c)** $(0.0011)(0.007)$ **d)** $40 \div 0.8$

14. Correct your answers. Circle the problems you have questions about, and I can help you in class ~~next year~~ next decade. ☺