

Pre-Algebra Problem Set 12 First Name _____ Last _____

Assigned Thursday 12/5, due Friday 12/13

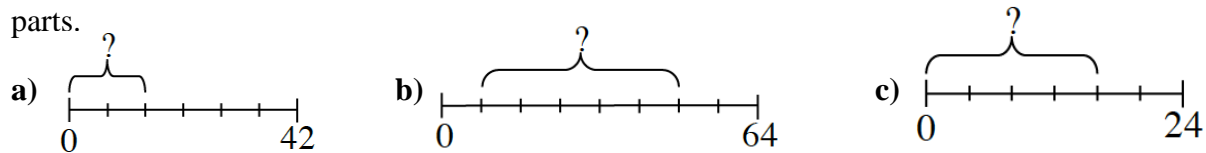
NO Work Shown, NO Credit Given

1. Simplify each of the following expressions without using a calculator.

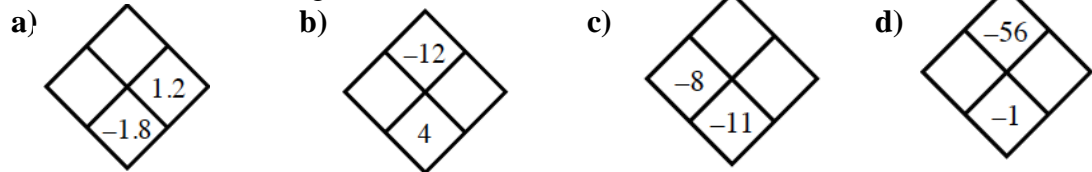
- a) $-2(-6)$ b) $-2 - 6$ c) $-2 - (-6)$ d) $2(-6)$
 e) $2 - (-6)$ f) $-6 - 2$ g) $-2(6)$ h) $-(-2)(-3)(-4)$

2. Find the reciprocal of each number: a) $\frac{3}{4}$ b) $\frac{7}{10}$ c) 8 d) $3\frac{1}{3}$ e) $11\frac{2}{3}$

3. Find the missing parts of each number line. Assume that the lines have been split into equal parts.



4. Complete each of the Diamond Problems below. The pattern used in the Diamond Problems is shown at right.



5. Each of the diagrams below represents a sequence for a tightrope walker. For each one, find the length of the unknown trick, and write an algebra expression for the length of the sequence.



6. Troy has a number cube with the numbers 1 through 6 on it. Assuming each side is equally likely to appear when he rolls the cube, find the following probabilities.

- a) P(rolls a 2) b) P(rolls an odd number) c) P(rolls a factor of 6)

-----The work for problems #7 - #14 needs to be attached on a separate piece of paper.-----

7. Simplify each expression below *on a separate piece of paper. Show your work.*

- a) $5(-2) - 3$ b) $-7 + -3 - (-5)$ c) $(4)(25) - 300$
 d) $-7 + 4 \div (-2)$ e) $(8 + (-3))(-5\frac{3}{5})$ f) $(4 - (-3)) + (5 \div (-5))$

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

- a) -32 and 48 b) 31.4 and -28.3 c) -273 and -73

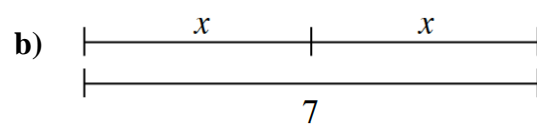
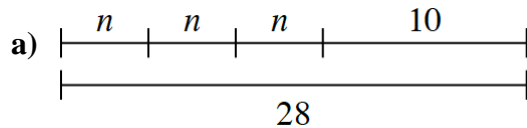
9. Simplify each expression. *Show your work.*

a) $\left(4\frac{1}{2}\right)^2$ b) $201\frac{7}{9} - 52\frac{2}{3}$ c) $188\frac{2}{7} - 100\frac{1}{2}$ d) $627\frac{1}{4} - 48\frac{11}{12}$ e) $\frac{2}{7}$ of $3\frac{1}{2}$

10. Four friends worked together to wash all of the cars that the Kish family owns. They received \$42.36 for doing the work and agreed to divide the earnings evenly. How much money will each friend earn? *Show how you know.*

11. Each of the diagrams below represents tightrope moves for an acrobat. For each diagram:

- Write an equation to represent the length of the routine.
- Figure out the length of the acrobat's trick.



12. a) $7 + 3(7 - 3)$ b) $7 + 3 \cdot 7 - 3$ c) $(7 + 3)(7 - 3)$ d) $(7 + 3)7 - 3$

13. Tina's rectangular living-room floor measures 15 feet by 18 feet.

a) How many square feet of carpet will Tina need to cover the entire floor?

b) The carpet Tina likes is sold by the square yard. How many square yards will she need?

14. Evaluate each expression when $a = 2$, $b = 5$, $x = 8$, and $y = 10$.

a) $b - y - a$ b) $|a - b| + |x - y|$ c) $y - 7\frac{3}{8}$
d) ba^2 e) $y^3 - y^2$ f) $a + x(b - y)$