

**Math Concepts Problem Set 13** First Name \_\_\_\_\_ Last \_\_\_\_\_

Assigned Thursday 12/12, due THURSDAY 12/19

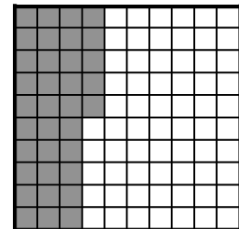
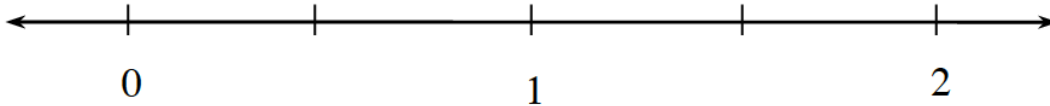
**No Work Shown, No Credit Given**

Period \_\_\_\_\_

**Problems #1-#6 can be completed on this paper. The work for #7-#14 needs to be attached on a separate piece of paper.**

1. Label the following numbers on the line in the appropriate locations.

A) 10%      B) 150%      C) 0.07      D) 0.2      E) 83%      F)



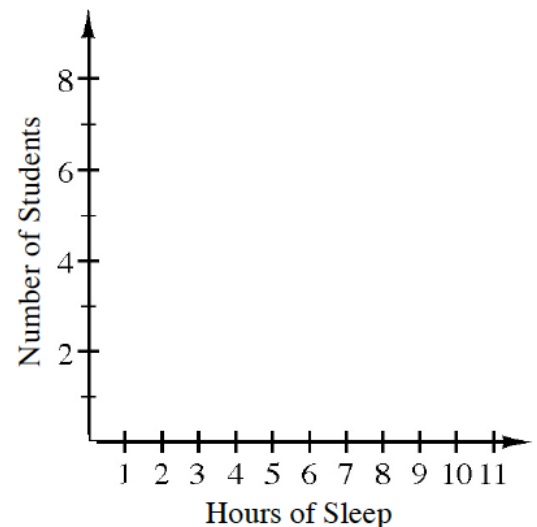
2 Kelly asked some of her classmates how many hours of sleep they get on school nights. Here are the results: 6, 8,  $7\frac{1}{2}$ , 9, 8, 8, 8, 9, 9, 10, 6,  $8\frac{1}{2}$ , 9, 7, 8. Create a histogram for the data.

3. Complete the ratio tables.

<b>Violins</b>	8	24
<b>Cellos</b>	3	

<b>Burgers</b>	3		9
<b>Hot Dogs</b>	5	10	

<b>Forks</b>	16	8	
<b>Spoons</b>	10		30



4. a) What is the ratio of circles to triangles?  
 b) What is the ratio of triangles to circles?  
 c) What is the ratio of triangles to total shapes?

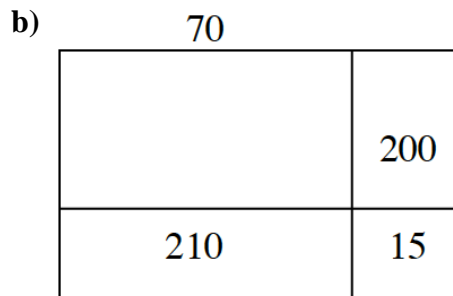
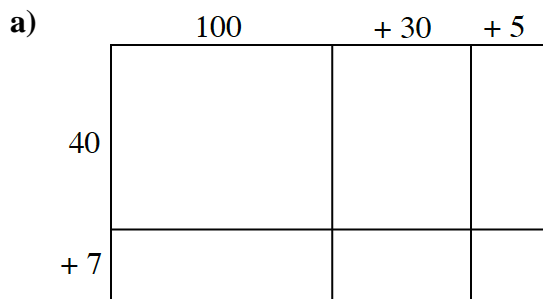


5. a) Convert to improper fractions:  $3\frac{1}{2}$        $1\frac{5}{7}$        $10\frac{5}{8}$        $100\frac{2}{3}$

b) Convert to mixed numbers:  $\frac{10}{3}$        $\frac{27}{4}$        $\frac{27}{5}$        $\frac{83}{20}$

6. Make a portion web for each number:  $\frac{2}{25}$       1.21      9%       $\frac{19}{20}$

7. Label the dimensions and the area for each generic rectangle shown below.



-----The work for #8 - #14 needs to be attached on a *separate paper*.-----

8. a)  $\frac{2}{5} + \frac{7}{10}$

b)  $\frac{1}{2} - \frac{3}{10}$

c)  $\frac{5}{6} - \frac{3}{4}$

d)  $\frac{2}{3} + \frac{5}{12}$

9. A triangular flower bed (space for planting flowers) needs a thin metal border all the way around it. The sides are 7 feet, 6 feet, and 9 feet long.

a) Draw a sketch of the flower bed.

b) How many feet of border should be purchased?

c) If metal borders cost \$8 per foot, how would the border cost?

10. a)  $18^2$       b)  $5^4$       c)  $8^3$       d)  $312^2$

11. Find three new fractions that are equivalent to  $\frac{8}{20}$

12. a)  $23\frac{2}{3} + 11\frac{1}{2}$       b)  $200\frac{7}{8} - 111\frac{7}{10}$       c)  $234\frac{11}{12} + 432\frac{1}{6}$

13. Quinn just had a large pond dug on his farm and wants to stock the pond with fish. He was researching the best way to go about this when he saw the following on the PondPerson blog: “The biggest factor to keep in mind is the predator-prey ratio. Stock the pond with 1 predator fish for every 3 prey fish.” If Quinn stocks his pond with 100 fish, using the 1 predator to 3 prey ratio, how many prey fish will he need to buy?

14. a) What is the ratio of cows to chickens in the picture below?

b) What is the ratio of chickens to total animals in the picture below?

c) What percent of the animals below are chickens?

