

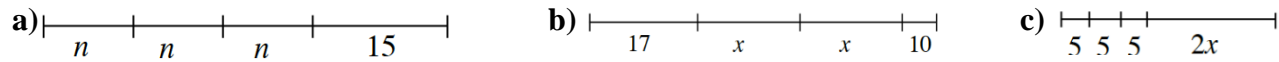
**Math Concepts Problem Set 20**

Name \_\_\_\_\_

Assigned Thursday 2/20, due Friday 2/28

**No Work Shown, No Credit Given**

Period \_\_\_\_\_

**1.** Write an algebra expression to represent the length of each segment shown below.**2. a)** What is the ratio of ducks to beavers?**b)** What percent of the mascots are beavers?**3.** Convert each mixed number to an improper fraction greater than one.

**a)**  $1\frac{7}{12}$

**b)**  $2\frac{5}{8}$

**c)**  $4\frac{12}{25}$

**d)**  $5\frac{3}{8}$

**e)**  $10\frac{7}{11}$

**4.** Simplify each fraction to a mixed number, or a whole number.

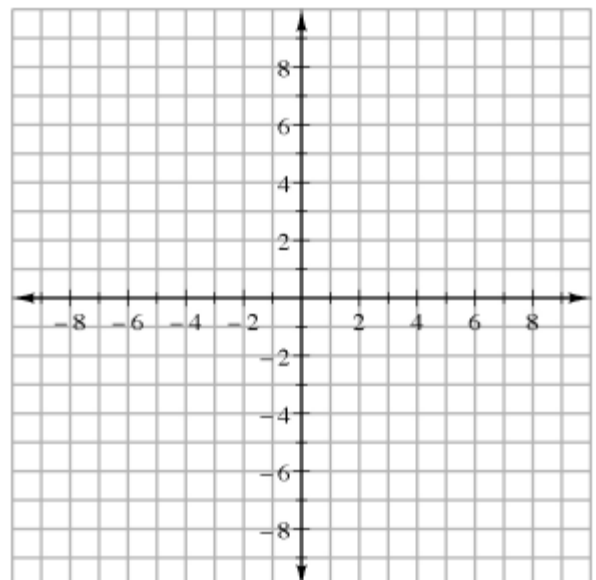
**a)**  $\frac{19}{9}$

**b)**  $\frac{11}{7}$

**c)**  $\frac{20}{3}$

**d)**  $\frac{20}{4}$

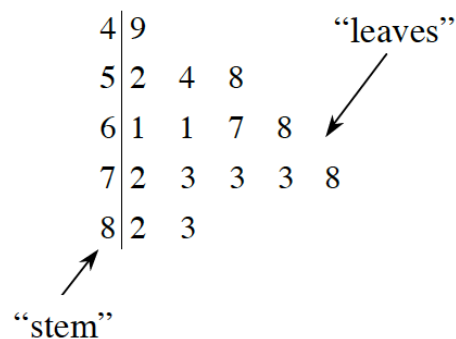
**e)**  $\frac{321}{100}$

**5.** Make a portion web for each number. **a)**  $\frac{11}{25}$  **b)** 2% **c)** 1.1 **d)**  $\frac{3}{8}$ **6. a)** Plot the following points, and connect them in order. $(-7, -4), (-2, -4), (-2, 0), (5, 0), (5, 2), (-7, 2), (-7, -4).$ **b)** Find the area of your shape, in square units.

7. a) List the numbers in order from the stem and leaf plot.

b) Make a new stem and leaf plot for this data set:

21, 27, 30, 33, 38, 44, 46, 46, 62, 70, 75



8. Simplify each algebra expression.

a)  $9 + y + 3 + y$

b)  $x + 3x + 4x$

c)  $5n - n - n$

d)  $m + n + m + m$

9. a) Are these two expressions equivalent? **Explain.**  $5 + x^2$

$5 + 2x$

b) Are these two expressions equivalent? **Explain.**  $x + 5 + x + x$

$5 + 3x$

10. a) Are these two fractions equivalent? **Explain.**

$\frac{5}{20}$

$\frac{1}{4}$

b) Are these two fractions equivalent? **Explain.**

$\frac{1}{6}$

$\frac{6}{60}$

11. Show your work.

a)  $\frac{3}{8} + \frac{3}{4}$

b)  $\frac{9}{10} + \frac{2}{3}$

c)  $\frac{11}{12} - \frac{1}{3}$

12. Use “My Dear Aunt Sally” order of operations to simplify. *Show your work.* No equal signs!

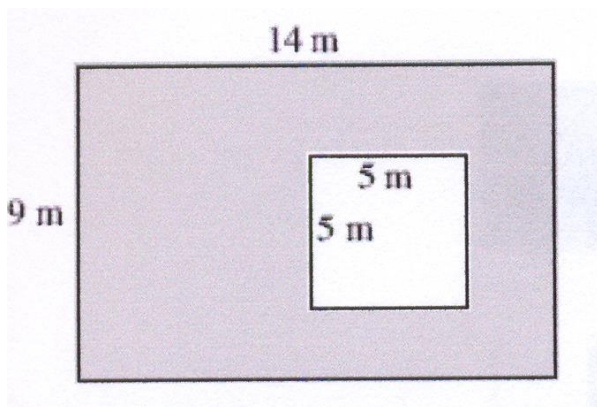
a)  $5 \cdot 8 - 12 \div 3$

b)  $20 - 16 \div 4 + 2 \cdot 9$

c)  $12 - 10 \div 2 + 3$

13. Find the shaded area.

a)



b)

