Unit 9 Review: Proportions

NAME: _____

Period: _____

Directions: Solve each proportion.	**Directions: Set up a proportion and then solve. Remember to label your answer.**
1) $$\frac{6}{15} = \frac{27}{x}$$ $$\frac{6x}{6} = \frac{405}{6}$$ $$\boxed{x = 67.5}$$	2) Mr. Brust makes 15 mistakes when making every 2 units. How many mistakes can we expect that he'll make if he made 11 units? $$\frac{mistakes}{units} = \frac{mistakes}{units}$$ $$\frac{15}{2} = \frac{x}{11}$$ $$\frac{165}{2} = \frac{2x}{2}$$ $$\boxed{82.5 \text{ mistakes} = x}$$
Directions: Set up a proportion and then solve it. Round to the nearest hundredth.	**Directions: Set up a proportion for the following. Then solve your proportion. Round to the nearest hundredth**
3) 68 is 30% of what number? $$\frac{is}{of} = \frac{\%}{100}$$ $$\frac{68}{x} = \frac{30}{100}$$ $$\frac{6800}{30} = \frac{30x}{30}$$ $$\boxed{226.67 = x}$$	4) Mr. Kelly has 4 open seats in his classroom. This is 16% of all of his seats. $$\frac{open}{total} = \frac{open}{total}$$ $$\frac{4}{x} = \frac{16}{100}$$ $$\frac{400}{16} = \frac{16x}{16}$$ $$\boxed{\begin{array}{c}25 = y \\ seats\end{array}}$$

Solve the following. SHOW ALL WORK!!!! Round to the nearest hundredth.
5) Mr. Bean recently purchased a 2nd Generation iPad. It originally cost $450 but he got it on sale or 30% off. How much did he pay for the iPad? $$450 - .30(450)$$ $$450 - 135$$ $$\boxed{\$315}$$

Directions: Find the percent change. Label as increase or decrease.

6)

Original: 320

New: 345

$$\frac{new - olls}{orisinal} = \frac{\%}{100}$$

$$\frac{345 - 320}{320} = \frac{\%}{100}$$

$$\frac{25}{320} = \frac{X}{100}$$

$$\frac{2500}{320} = \frac{320X}{320}$$

$$\boxed{7.8125\% \text{ increase} = X}$$

7) The fox population last season was 525 foxes in a region. The next season the population was 1200 foxes. Describe the change in population of foxes from one season to the next.

$$\frac{1200 - 525}{525} = \frac{\%}{100}$$

$$\frac{675}{525} = \frac{X}{100}$$

$$67500 = 525X$$

$$\boxed{128.57\% \text{ increase} = X}$$

8a) Mr. Sullivan invests $1000 in SpaceX. In one year his investment went up to $1250. Describe the change in investment from one year to the next.

$$\frac{1250 - 1000}{1000} = \frac{X}{100}$$

$$\frac{250}{1000} = \frac{X}{100}$$

$$25000 = 1000X$$

$$\boxed{25\% = X \text{ increase}}$$

8b) The next year his SpaceX investment decreases 25% from his $1250. How much does he now have invested?

$$1250 - .25(1250)$$

$$1250 - 312.50$$

$$\boxed{\$937.50}$$