Warm-Up 10

1. _____ Mr. Hash gives 10 points of extra credit to everyone who scores higher than the class mean. Also, if you are absent you don't get extra credit and you are not counted for the mean. Lastly, his tests are based on percent correct and there are 20 questions. If there are 78 people in his class and 3 are absent, what is the largest number of people who can get extra credit?

2. _____ On Ali Island: 1/3 of the people have a dog, 1/2 have a cat, 1/6 have a bird, and 1/8 do not have a pet. No one has all three pets. If there are 96,000 people on the island, how many have two pets?

3. _____ : _____ pm Samantha leaves at 2pm on her bike to go to her friend Mary's house, which is 15 miles away. She stays there for 2 hours then rides home, but on her way home she realizes she left her phone. She returns to Mary's to get her phone then rides directly home and is back by 5:50pm. Assuming always rides at a constant rate of 20mph, at what time did she realize she forgot her phone?

4. _____ min Sean and Mike are hired to paint a rectangular fence that is 85 feet long and 5 feet tall. Sean can paint $7ft^2$ in 2 minutes, while Mike can paint $5ft^2$ in 1 minute. If they have to put two coats of paint on both sides of the fence, how many minutes will it take for them to paint the entire fence? (Negate any time it takes for the paint to dry.)

5. _____ Three numbers are selected from a box containing each of the numbers 1 through 10 with replacement. What is the probability that the sum of the three numbers will be greater than 28? Express your answer as a common fraction.

6. _____ At Eagle Croft High School there was a student social. After an hour, 15 girls left to play in a volleyball game. The ratio of boys to girls remaining was 16 to 9. Later, 45 boys left for a football game. The ratio of girls to boys was then 9 to 7. How many students attended the party?

7. _____ For positive numbers x and y, if $\frac{x}{2} = \frac{9}{y}$ and $\frac{x}{y} = \frac{1}{2}$, what is 5x-2y?

8. _____ Sean picks a single digit (d) at random. What is the probability that 3,458,1d7 is divisible by 7?

9. _____ mph Jack rows a boat downstream for 2 hours, and then rows upstream toward the starting point. It takes him 3 hours to complete the return trip. If he can row a boat 7 miles per hour in still water, what is the speed of the current? Express your answer in miles per hour to the nearest tenth.

10. _____ A fly lands at a random point on the surface of a round tabletop with a radius of 2 feet. What is the probability that the fly is within 8 inches of the table's edge? Express your answer as common fraction.