Jadwin-Technical Math A-7ᵗʰ Period- Off Site Learning Packet Day 1

1) Allie went to the store and paid $5.00 for 2 boxes of cereal. How much would she pay for 9 boxes of cereal?

Solution: (a) Compute the unit rate by dividing $5.00 by 2. Then you know 1 box costs $2.50
　　　　　(b) Since 1 box costs $2.50, multiply this by 9 since we want to buy 9 boxes. Total cost = $22.50.

2) Solve the following proportion: $\frac{x}{12} = \frac{9}{5}$

Solution: (a) Cross multiply to get 5x = 108
　　　　　(b) Divide both sides of the equation by 5 to get x = 21.6

3) There are 28 students in a class. 25% of the class received an A on their last test. How many students did not receive an A?

Solution: (a) Find 25% of 28 by multiplying .25 by 28 to get 7. This means that 7 students got an A (since 25% of the 28 students got an A).
　　　　　(b) Since 7 students got an A, subtract 7 from 28 to find the number of students that didn't get an A. Answer = 21 students.

4) Two sump pumps working at the same rate drain a flooded basement in $9\frac{1}{2}$ hours. How long does it take 5 pumps working at the same rate to drain the basement?

Solution: (a) Setup a proportion to help you solve this problem: $\frac{2\ pumps}{5\ pumps} = \frac{9.5\ hours}{x\ hours}$
　　　　　(b) Ask yourself if your answer should be bigger or smaller than 9.5 hours (time required for 2 pumps). It should be smaller, because it should take 5 pumps less time to drain the basement that it would 2 pumps. Since the answer should be smaller, this means we need to invert (flip) one of our fractions. The problem now becomes: $\frac{2\ pumps}{5\ pumps} = \frac{x\ hours}{9.5\ hours}$
　　　　　(c) Now cross multiply to get: 19 = 5x
　　　　　(d) Now divide both sides by 5 to find that x = 3.8 hours.

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1) Solve each proportion to find the value of the variable.

a) $\frac{12}{L} = \frac{6}{7}$

b) $\frac{15}{16} = \frac{M}{120}$

2) Eight hundred students took a test. Of these 800 students, 35% received an A. How many students did not receive an A?

3) It is estimated that 56% of an apple harvest is spoiled by an early frost. Before the frost, the expected harvest was 6,400 bushels. How many bushels are estimated to not be spoiled? Round the answer to the nearest hundred bushels.

4) An engine uses 5 gallons of gasoline when it runs for 8 hours. If it runs the same speed, how many gallons will it use in 12 hours?

5) Two sump pumps working at the same rate drain a flooded basement in $4\frac{1}{2}$ hours. How long does it take 4 pumps working at the same rate to drain the basement?

6) Jim paid $8.00 for 5 boxes of macaroni and cheese. At this rate, how much would he pay for 17 boxes?

7) Out of the 30 days in November, it rained on 8 of them. What percent of the total days were rainy? Round your answer to the nearest hundredth.