Mixed Practice Direct & Inverse Variation

1) A person who weighs 185 lb should be given how many milligrams of medication if the dosage is 15 mg for every 10 lb?

2) A person who weighs 142 lb should be given how many mg of medication if the dosage is 25 mg for every 10 lb?

3) Nurse Lee prepares dosages for her patients in 30 min. If she gets help from assistants, who also work at her rate, and altogether they can complete the preparation in 6 min, how many **helpers** did she get?

4) A 4.5 in. pulley turning at 1000 rpm is belted to a larger pulley turning at 500 rpm. What is the size of the larger pulley?

5) The pediatric dosage for chlorpromazine hydrochloride is 0.25 mg/lb. What is the dosage for a child who weighs 40 lb?

6) It takes five people 7 days to clear an acre of land of debris left by a tornado; inversely, more people can do the job in less time. How long will it take 7 people all working at the same rate?

7) A car with a speed control device travels 100 mi at 50 mi/h. The trip takes 2 h. If the car traveled at 40 mi/h, how much time would the driver need to reach the same destination?

8) A blueprint has a scale of $\frac{1}{2} in = 1 ft$. On a blueprint a wall is $7\frac{1}{2}$ in. long. What was the actual measure of the wall?

9) A blueprint has a scale of $\frac{3}{4} in = 1 ft$. On a blueprint a wall is drawn $8\frac{3}{4}$ in. long. What is the actual measure of the wall.

10) A 10 in pulley makes 900 revolutions every minute. It drives a larger pulley at 500 rpm. What is the diameter of the in this inverse relationship?