d=rt Problems

#1.

Part 1: Chris Johnson ran the 40-yard dash in 4.24 seconds. What is the rate of speed? Round any answer to the nearest hundredth.

Distance = Rate • Time

$d = r \bullet t$

Part 2: In Lesson 21, we converted units of measure using unit rates. If the runner were able to run at a constant rate, how many yards would he run in an hour? This problem can be solved by breaking it down into two steps. Work with a partner, and make a record of your calculations.

a. How many yards would he run in one minute?

b. How many yards would he run in one hour?

We completed that problem in two separate steps, but it is possible to complete this same problem in one step. We can multiply the yards per second by the seconds per minute, then by the minutes per hour.

$$\_\_\_\_\_ \frac{\text{yards}}{\text{second}} \bullet 60 \frac{\text{seconds}}{\text{minute}} \bullet 60 \frac{\text{minutes}}{\text{hour}} = \_\_\_\_\_ \text{ yards in one hour}$$

Cross out any units that are in both the numerator and denominator in the expression because these cancel each other out.

Part 3: How many miles did the runner travel in that hour? Round your response to the nearest tenth.

#2.

Kevin is training to run a half-marathon. His training program recommends that he run for 5 minutes and walk for 1 minute. Let R represent the number of minutes running, and let W represent the number of minutes walking.

Minutes Running (R)		10	20		50
Minutes Walking (W)	1	2		8	

What is the value of the ratio of the number of minutes walking to the number of minutes running?

What equation could you use to calculate the minutes spent walking if you know the minutes spent running?

#3.

Exercise 1

I drove my car on cruise control at 65 miles per hour for 3 hours without stopping. How far did I go?

$d = r \bullet t$

$d =$ _____ $\frac{\text{miles}}{\text{hour}} \bullet$ _____ hours

Cross out any units that are in both the numerator and denominator in the expression because they cancel out.

$d =$ _____ miles

Exercise 2

On the road trip, the speed limit changed to 50 miles per hour in a construction zone. Traffic moved along at a constant rate (50 mph), and it took me 15 minutes (0.25 hours) to get through the zone. What was the distance of the construction zone? (Round your response to the nearest hundredth of a mile.)

$d = r \bullet t$

$d =$ _____ $\frac{\text{miles}}{\text{hour}} \bullet$ _____ hours