Lesson 4 Practice Problems

1. Decide whether each table could represent a proportional relationship. If the relationship could be proportional, what would the constant of proportionality be?

   a. How loud a sound is depending on how far away you are.

distance to listener (ft)	sound level (dB)
5	85
10	79
20	73
40	67

   b. The cost of fountain drinks at Hot Dog Hut.

volume (fluid ounces)	cost ($)
16	$1.49
20	$1.59
30	$1.89

2. A taxi service charges \$1.00 for the first $\frac{1}{10}$ mile then \$0.10 for each additional $\frac{1}{10}$ mile after that.

   Fill in the table with the missing information then determine if this relationship between distance traveled and price of the trip is a proportional relationship.

distance traveled (mi)	price (dollars)
$\frac{9}{10}$	
2	
$3\frac{1}{10}$	
10	

3. A rabbit and turtle are in a race. Is the relationship between distance traveled and time proportional for either one? If so, write an equation that represents the relationship.

   Turtle's run:

distance (meters)	time (minutes)
108	2
405	7.5
540	10
1,768.5	32.75

   Rabbit's run:

distance (meters)	time (minutes)
800	1
900	5
1,107.5	20
1,524	32.5

4. For each table, answer: What is the constant of proportionality?

a	b
2	14
5	35
9	63
$\frac{1}{3}$	$\frac{7}{3}$

a	b
3	360
5	600
8	960
12	1440

a	b
75	3
200	8
1525	61
10	0.4

a	b
4	10
6	15
22	55
3	$7\frac{1}{2}$

(From Unit 5, Lesson 1.)

5. Here is a table that shows the ratio of flour to water in an art paste. Complete the table with values in equivalent ratios.

cups of flour	cups of water
1	$\frac{1}{2}$
4	
	3
$\frac{1}{2}$	

(From Unit 2, Lesson 9.)