

NAME: _____

Purpose

To understand scale factors between equal ratios

Math Words

times as many

\$300 is 6 times as many dollars as \$50.

on average

A basketball player makes 34 points a game on average, but he may make more or fewer points in any game.

scale factor

30 minutes of exercise compared to 90 minutes shows an increase by a scale factor of 3.

Starter Problem

On average, Liz makes 5 shots for every 6 tries in basketball. About how many shots would you expect her to make in 150 tries? _____

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Starter Problem

On average, Liz makes 5 shots for every 6 tries in basketball. About how many shots would you expect her to make in 150 tries? _____

Student Thinking

Nick

150 tries is 25 times as many as 6 tries, so the scale factor is 25.
Liz should make about 25 times as many as 5 shots. That's about 125 shots out of 150 tries.



$$\begin{array}{l} 5 \text{ shots} \cdot \boxed{25} \rightarrow \boxed{125} \text{ shots} \\ 6 \text{ tries} \cdot \boxed{25} \rightarrow \boxed{150} \text{ tries} \\ \text{answer: about 125 shots} \end{array}$$



Ana

5 shots is 1 less than 6. So 1 less than 150 is 149. It'll be about 149 shots.

Pitfall

about 149 shots

Things to Remember

- * _____
- * _____
- * _____
- * _____



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Our Turn

Solve. Use a diagram, such as two number lines or a table, for each problem.

1. A recipe for soup calls for a liquid to vegetable ratio of 11:3. If a school cook has 27 cups of vegetables, how many cups of liquid should be used?

2. Kyle's basketball statistics say he makes 3 shots for every 10 tries. How many tries would you expect him to make before he has 150 successful shots?

3. The Bailey family eats about 5 pounds of rice in 3 weeks. How many weeks will a 40-pound bag last?

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My Turn

Solve. Use a diagram, such as two number lines or a table, for each problem.

1. Mrs. Johnson paid \$6 for 14 little plants. At that rate, how many little plants should she be able to buy for \$42?

2. Mrs. Ramirez noticed that in the winter an average of 4 out of 27 students were absent each day from her class. At that rate, how many absences would be expected each day in a school of about 540 students?

3. A recipe for snack mix calls for a raisins to peanuts ratio of 2:5 by weight. If there are 80 kilograms of peanuts to use in a factory's mixture, how many kilograms of raisins should be mixed in?

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Multiple Choice Mini Lesson

Fill in the circle next to the answer you choose.

1. Mrs. Johnson's class earns \$4 for every 5 pounds of aluminum that they recycle. How many pounds do they need to collect to earn \$100?

☐ 25☐ 80☐ 100☐ 125

2. A recipe for a strawberry-pineapple drink calls for 12 ounces of strawberries with 8 ounces of pineapple. If Kim has 48 ounces of pineapple, how many ounces of strawberry does she need to make a big batch of the drink?

☐ 32☐ 42☐ 68☐ 72

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Writing Task Mini Lesson

A cornbread recipe has a flour to cornmeal ratio of 5:3. Explain how you know that if you have 150 grams of cornmeal, you need 250 grams of flour.



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