

Name \_\_\_\_\_

### Unit 1: Scales without Units

Write the scale without units. Use the table of measurements to help you.

|                    |                   |
|--------------------|-------------------|
| 1 ft = 12 inches   | 1 cm = 10 mm      |
| 1 yard = 3 feet    | 1 meter = 100 cm  |
| 1 yard = 36 inches | 1 meter = 1000 mm |

1.  $\frac{1 \text{ in}}{2 \text{ feet}}$

2.  $\frac{1 \text{ ft}}{5 \text{ yard}}$

3.  $\frac{1 \text{ cm}}{3 \text{ meters}}$

4.  $\frac{1 \text{ mm}}{7 \text{ cm}}$

5.  $\frac{1 \text{ mm}}{6 \text{ meters}}$

6.  $\frac{1 \text{ in}}{2 \text{ yards}}$

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Find area or perimeter with scale factor.

9. Rod drew a rectangle that is 3 inches wide and 7 inches long.

- a. What is the perimeter? \_\_\_\_\_
- b. If the scale factor is 2, what is the new perimeter? \_\_\_\_\_
- c. How many times larger is the new perimeter? \_\_\_\_\_
- d. 10. Jamal drew a rectangle that is 9 inches by 21 inches.

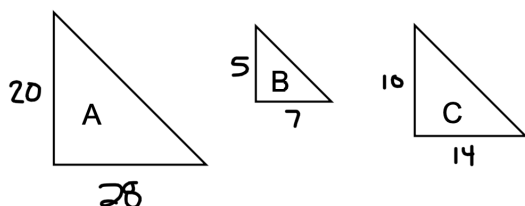
- a. What is the area? \_\_\_\_\_
- b. If the scale factor is  $\frac{1}{3}$ , what is the new area? \_\_\_\_\_
- c. How many times smaller is the new area? \_\_\_\_\_

11. Tom drew a rectangle that is 6 inches wide and 15 inches long.

- a. What is the perimeter? \_\_\_\_\_
- b. If the scale factor is  $\frac{1}{3}$ , what is the new perimeter? \_\_\_\_\_
- c. How many times smaller is the new perimeter? \_\_\_\_\_

12. Jack drew a rectangle that is 12 inches by 16 inches.

- a. What is the area? \_\_\_\_\_
  - b. If the scale factor is 2, what is the new area? \_\_\_\_\_
  - c. How many times larger is the new area? \_\_\_\_\_
- 



11. What is the scale factor of A to B? \_\_\_\_\_

12. What is the scale factor of B to A? \_\_\_\_\_

13. What is the scale factor of A to C? \_\_\_\_\_

7. Circle the ratios are equal to 3:9.

- a. 1:3
  - b. 4:10
  - c. 30:90
  - d. 6: 18
  - e. 12:45
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8. Parish has a small toy airplane. The wing of the toy measures 8 inches long. He creates a scale drawing of his plane where 1 unit represents 2.5 inches. How long should the wing be on paper?