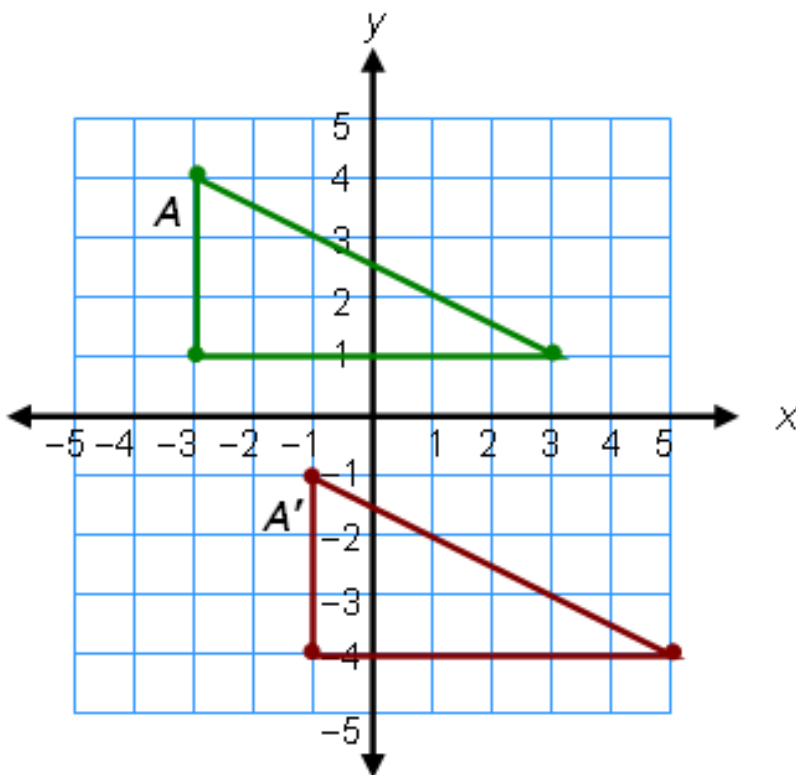




1. Identify the transformation from A to A' .

- A. translation
- B. reflection
- C. rotation
- D. dilation



2. Jacob has four different baking pans:

Pan 1: A square pan with 20 cm sides, 3.5 cm deep.

Pan 2: A rectangular pan 28 cm long, 20 cm wide and 3 cm deep.

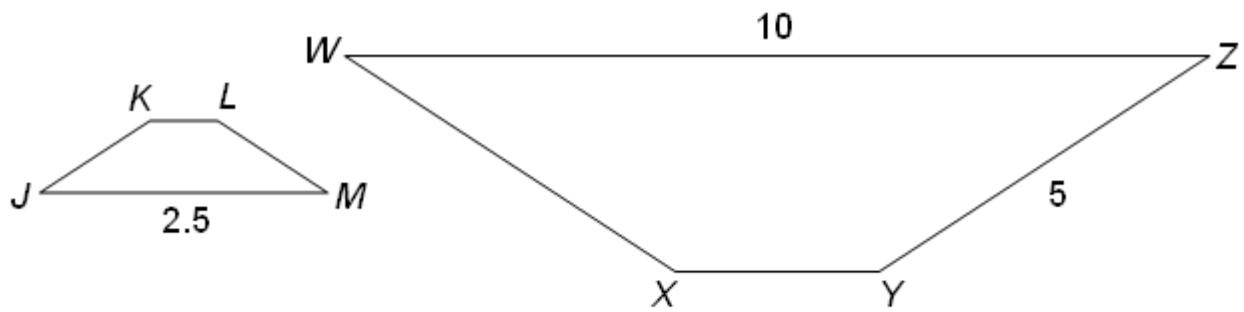
Pan 3: A square pan with 10 cm sides and 4 cm deep.

Pan 4: A rectangular pan with 30 cm sides, 18 cm long and 2 cm deep.

Jacob is baking brownies and needs the pan with the greatest volume for a certain recipe. Which pan should he use?

- A. Pan 1
- B. Pan 2
- C. Pan 3
- D. Pan 4

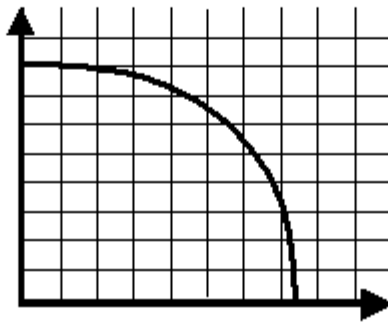
3. What is the scale factor of figure $JKLM$ to figure $WXYZ$ if they are similar?



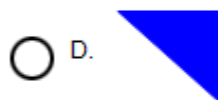
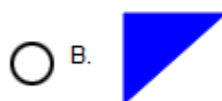
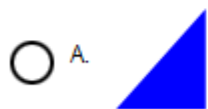
- F. 1:2
- G. 1:4
- H. 2:1
- J. 4:1

4. Which of the following is the best estimate for the area under the curve, bounded by the x and y -axes?

- A. 64 square units
- B. 50 square units
- C. 44 square units
- D. 40 square units



5. If the blue triangle is reflected across the line, which of the following triangles best depicts the new image?



6. Identify the figure shown.

- A. Rectangle
- B. Rhombus
- C. Square
- D. Parallelogram



7. The angles of a triangle are in the ratio 1:3:5. What is the measure, in degrees, of the largest angle?

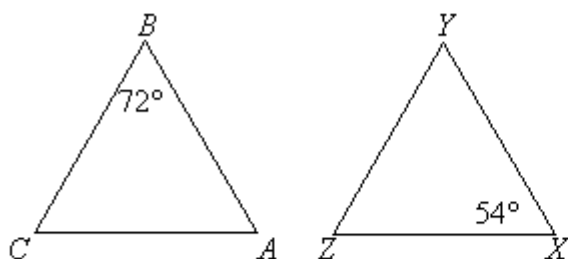
- A. 20°
- B. 30°
- C. 60°
- D. 100°

8. Veronica proved that $(ab)c = a(cb)$. She forgot to justify one step. Which property justifies her step?

- | | |
|--------------------|---|
| 1. $(ab)c$ | 1. Given |
| 2. $(ab)c = a(bc)$ | 2. _____ |
| 3. $(ab)c = a(cb)$ | 3. Commutative Property of Multiplication |

- A. Associative Property of Multiplication
- B. Transitive Property of Equality
- C. Substitution Property of Equality
- D. Commutation Property of Multiplication

9. Triangle ABC and triangle XYZ are congruent isosceles triangles. What is the measure of angle A ?



- A. 8°
- B. 54°
- C. 72°
- D. 180°

10. The position of a weight attached to an oscillating spring is given by $y = -5\cos\pi t$, where t is time in seconds and y is vertical distance in centimeters. Rest position is at the point where $y = 0$. Find the approximate times between 0 and 1 second at which the weight is 4 cm above its rest position.

- A. 0.1 second
- B. 0.3 second
- C. 0.4 second
- D. 0.8 second

Answer Key for problems 1-10

1	A
2	B
3	G
4	B
5	B
6	D
7	D
8	A
9	B
10	D