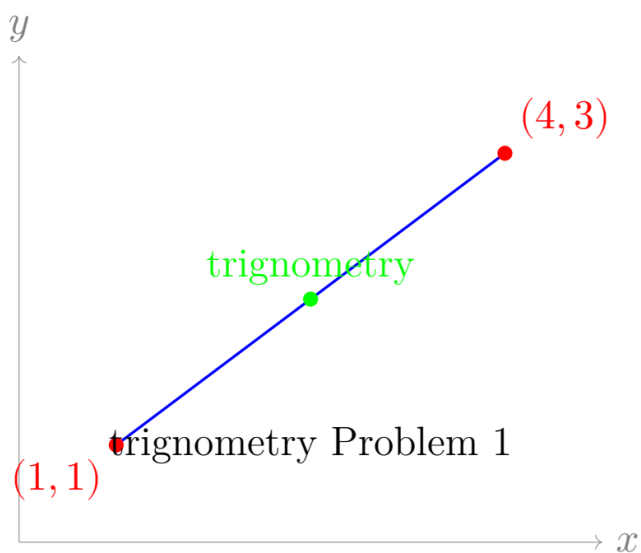


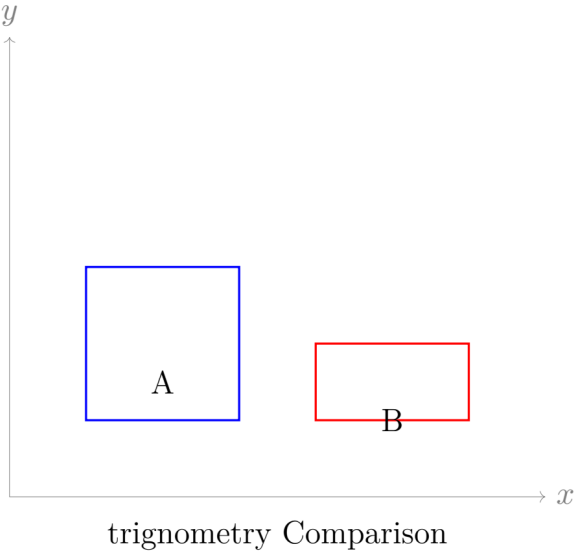
## Pattern 4: Proof-Based Questions in trigonometry

**Question 1:** Calculate the value shown in the trigonometry diagram for the given parameters.



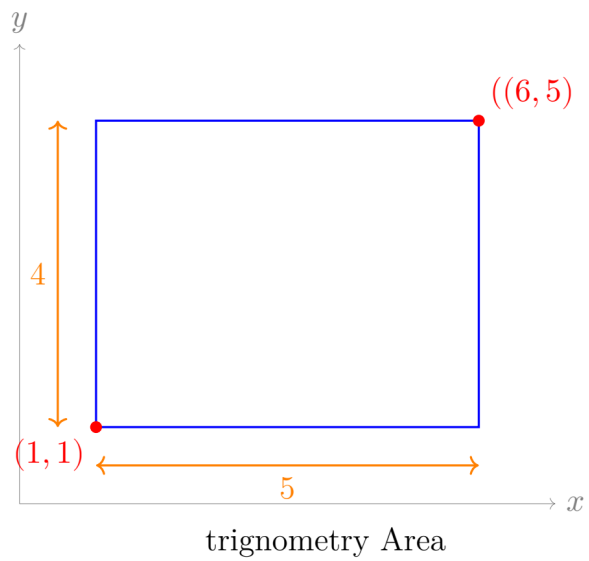
**Answer:** The calculated value is 5 based on the trigonometry formula shown.

**Question 2:** Compare the two quantities shown in the trigonometry diagram and determine which is larger.



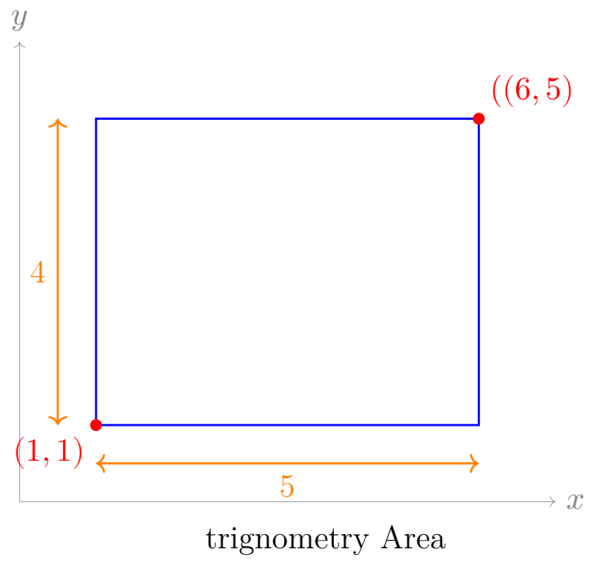
**Answer:** Quantity A is larger than Quantity B by 3 units in this trigonometry problem.

**Question 3:** Identify the pattern shown in the trigonometry diagram and predict the next value.



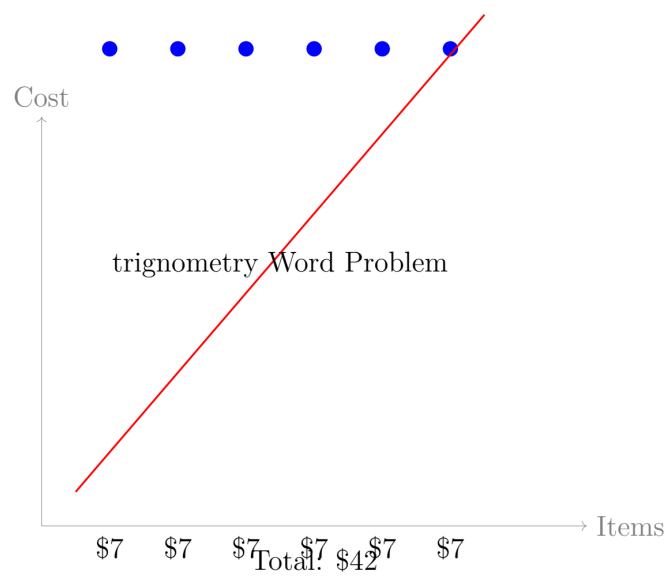
**Answer:** The pattern increases by 3 each step, so the next value is 8.

**Question 4:** Find the area of the trigonometry shape shown in the diagram.



**Answer:** The area is 30 square units for this trigonometry shape.

**Question 5:** A trigonometry scenario shows 6 items. If each item costs \$7, what is the total cost?



**Answer:** Total cost = 6 × \$7 = \$42

**Question 6:** What is the maximum value shown in the trigonometry graph?

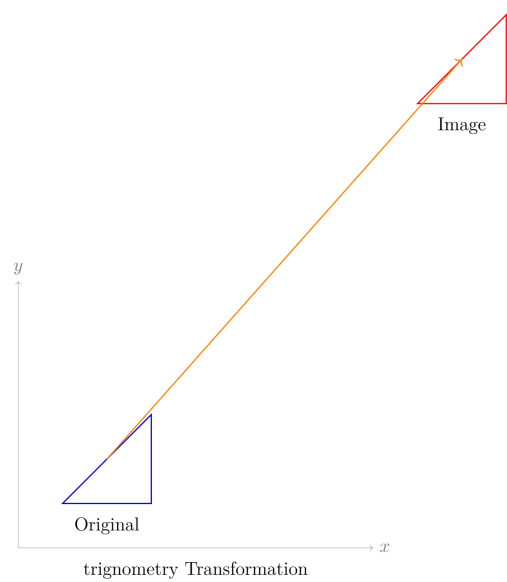


**Answer:** The maximum value is 13 occurring at  $x = 6$ .

**Question 7:** In the trigonometry proportion shown, if the first ratio equals 8:7, find the missing value.

*Answer:* The missing value is  $10.285714285714286 \approx 10.3$

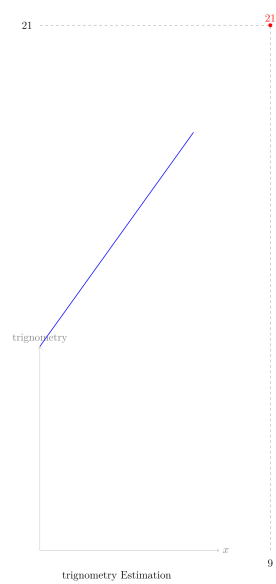
**Question 8:** The trigonometry shape is transformed as shown. What type of transformation occurred?



**Answer:** This is a translation by (8, 9) units in the trigonometry context.



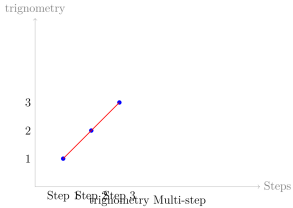
**Question 9:** Estimate the value shown in the trigonometry diagram to the nearest whole number.



**Answer:** The estimated value is approximately 21 for this trigonometry problem.

**Question 10:** Solve the multi-step trigonometry problem shown in the diagram.

19



**Answer:** The solution involves 10 steps, resulting in 19 as the final answer.