

# Foundations of Mathematical Thinking

Pre-Calculus · Answer Key · 16 Questions

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1. In the number pattern 2, 4, 6, 8, what is the next number?

- A) 9
- B) 10**
- C) 11
- D) 12

2. What is the name of the point (0, 0) on a coordinate grid?

- A) The Start
- B) The Center
- C) The Origin**
- D) The End

3. In the equation  $5 + x = 10$ , what is the letter 'x' called?

- A) A constant
- B) A variable**
- C) A sum
- D) A product

4. What do we call two lines that stay the same distance apart and never meet?

- A) Perpendicular
- B) Parallel**
- C) Intersecting
- D) Vertical

5. How many degrees are in a right angle?

- A) 45 degrees
- B) 90 degrees**
- C) 180 degrees
- D) 360 degrees

6. What is the term for the answer to an addition problem?

- A) Product
- B) Difference
- C) Sum**
- D) Quotient

7. Which shape has exactly four equal sides and four right angles?

- A) Triangle
- B) Rectangle
- C) Pentagon
- D) Square**

8. Which symbol means 'is greater than'?

- A) <
- B) >**
- C) =
- D) +

9. If a function machine adds 3 to every input, what is the output for the number 5?

- A) 2
- B) 15
- C) 8**
- D) 35

10. What is the term for the answer to a multiplication problem?

- A) Sum
- B) Difference
- C) Product**
- D) Quotient

11. On a coordinate plane, which axis is the vertical line?

- A) X-axis
- B) Y-axis**
- C) Z-axis
- D) Grid-axis

12. On a coordinate plane, which axis is the horizontal line?

- A) X-axis**
- B) Y-axis
- C) Z-axis
- D) Grid-axis

13. A shape with exactly five sides is called a what?

- A) Hexagon
- B) Octagon
- C) Pentagon**
- D) Quadrilateral

**14. What is the distance around the outside of a shape called?**

- A) Area
- B) Volume
- C) Perimeter**
- D) Diameter

**15. What is the line segment called that passes through the center of a circle from one side to the other?**

- A) Radius
- B) Diameter**
- C) Circumference
- D) Tangent

**16. When a shape can be folded so that both halves match exactly, what is this called?**

- A) Symmetry**
- B) Rotation
- C) Translation
- D) Gravity