# Basic Geometry Practice

## 20 Minutes – (Don't skip any questions)

1) Quantitative Comparison:

In the diagram, AC = 6.  CE = 12, DF = 4, and AB is parallel to DE.



| Quantity A | Quantity B |
|---|---|
| The area of triangle ABC | 12 |

A.   A > B          B.   B > A          C.   A = B          D.   Can't be determined
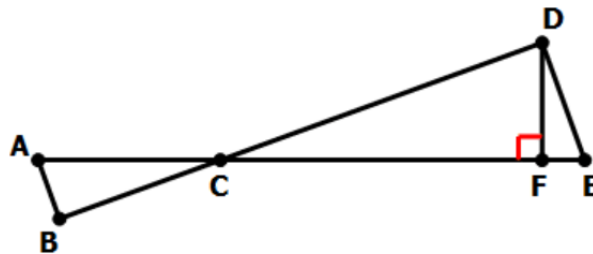
2) Quantitative Comparison:

O is the center, OA = 2, and BC = 3



| Quantity A | Quantity B |
|---|---|
| The area of square ACDE | 12 |
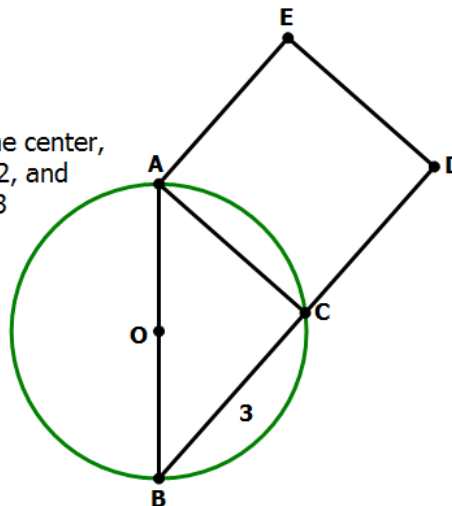
A.   A > B          B.   B > A          C.   A = B          D.   Can't be determined

3) Quantitative Comparison:
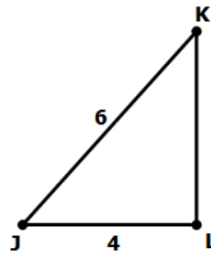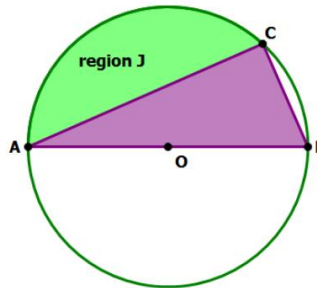


| Quantity A | Quantity B |
|---|---|
| The area of triangle JKL | 11 |

A. A > B          B. B > A          C. A = B          D. Can't be determined
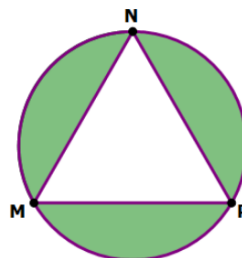
4) Quantitative Comparison:

In the diagram, O is the center of the circle, and AB is a diameter.

Region J is the area between chord AC and the arc of the circle.



| Quantity A | Quantity B |
|---|---|
| Area of triangle ABC | Area of region J |

A. A > B          B. B > A          C. A = B          D. Can't be determined

5) Quantitative Comparison:



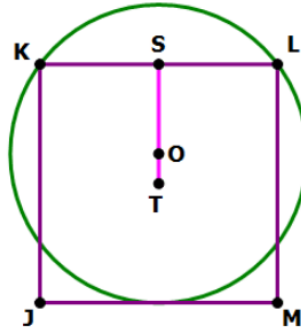| Quantity A | Quantity B |
|---|---|
| Area of triangle MNP | Area of the shaded region |

A. A > B          B. B > A          C. A = B          D. Can't be determined

6) Quantitative Comparison:

In the diagram, JKLM is a square.

Point S is the midpoint of KL, and point T is the center of the square.

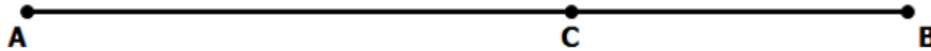Point O is on segment ST, and is the center of the circle, which passes through both K and L.



| Quantity A | Quantity B |
|---|---|
| Area of circle O | Area of square JKLM |

   A.  A > B          B.  B > A          C.  A = B          D.  Can't be determined
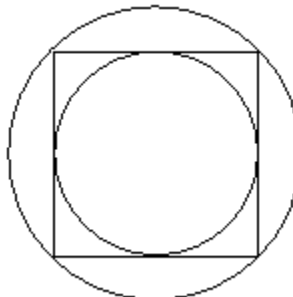
7) Quantitative Comparison:

In the diagram, $\frac{AB}{AC} = \frac{AC}{BC}$



| Quantity A | Quantity B |
|---|---|
| $\dfrac{AC}{BC}$ | 3 |

   A.  A > B          B.  B > A          C.  A = B          D.  Can't be determined

8) In the figure below, a square is inscribed in a circle and another circle is inscribed in the square. If the area of the smaller circle is $\pi$, what is the area of the larger circle?
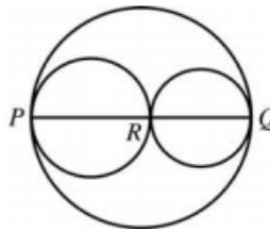


   A.  $\pi\sqrt{2}$          B.  $\pi\sqrt{3}$          C.  $2\pi$          D.  $3\pi$          E.  $4\pi$

9) Rectangle R has length 30 and width 10, and the square S has length 5. The perimeter of S is what fraction of the perimeter of R? (Numeric Entry)

$$\frac{\Box}{\Box}$$

10) Quantitative Comparison:

Three circles with centers online segment PQ are tangent at points P, R and Q, where point R lies on line segment PQ.



| Quantity A | Quantity B |
|---|---|
| The circumference of the largest circle. | The sum of the circumference of the two smaller circles. |

A. A > B          B. B > A          C. A = B          D. Can't be determined

11) In a triangle ABC, the measure of the angle B is $90°$, the length of side AB is $4$, and the length of side BC is $x$. If the length of hypotenuse AC is between $4$ and $8$, which of the following could be the value of $x$? Indicate all such values.
   A. 1          B. 2          C. 3          D. 4          E. 5          F. 6

12) The floor space of a certain market is rented for $15 per 30 square feet per one day. In the market, Alice rented a rectangular floor space that measured 8 feet by 15 feet, and betty rented a rectangular floor space that measured 15 feet by 20 feet. If each woman rented her floor space for one day, how much more did Betty pay more than Alice?
   A. $27          B. $36          C. $54          D. $90          E. $180