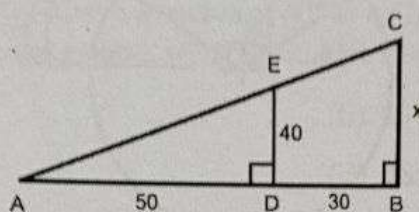
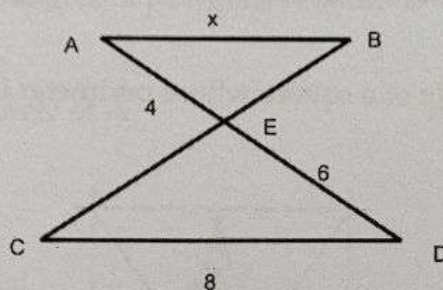


Geometry Exercises

1. Determine the value of x .

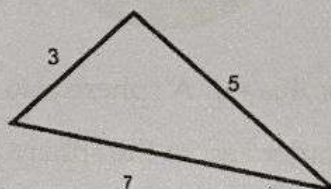


2. Determine the value of x .

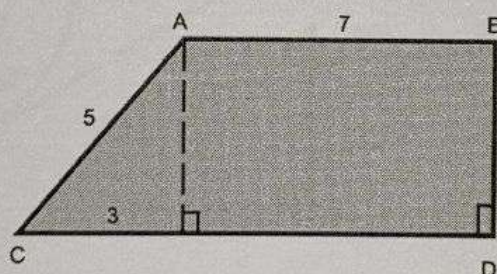


AB is parallel to CD

3. Compute, to 1 decimal place accuracy, the area of the triangle.

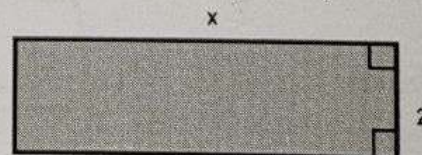
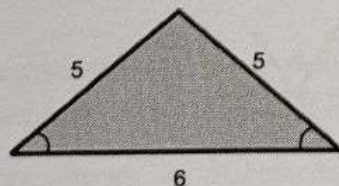


4. Determine the area of the trapezoid.

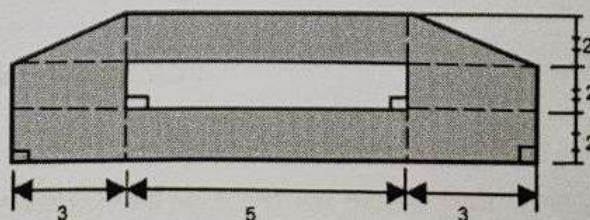


AB is parallel to CD .

5. The triangle has the same area as the rectangle. Determine x .

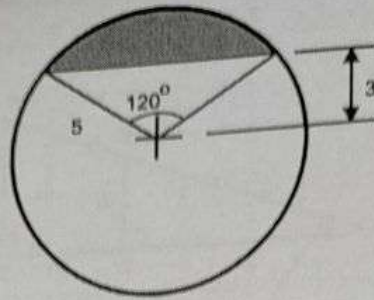


6. Compute the area of the shaded region of the figure shown below.

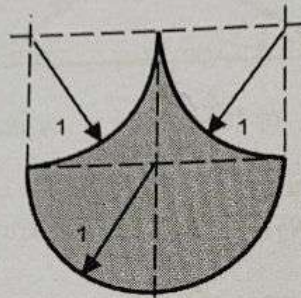


All horizontal lines are parallel. All vertical lines are parallel.

7. Compute to 1 decimal-place accuracy, the area of the shaded region shown in the figure.



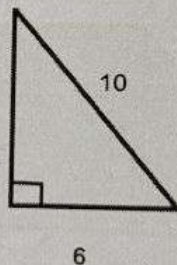
8. Compute to 1 decimal-place accuracy, the surface area of a right circular cone whose base radius = 1 and whose height = 2.
9. Determine the length of one side of a square whose perimeter is equal to that of the shaded figure.



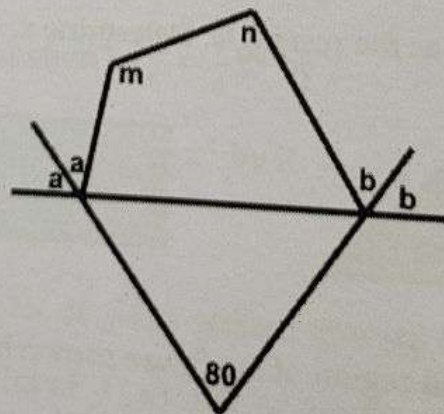
10. A right circular cylinder has base radius = 1. A sphere also has radius = 1.

The sum of surface areas of the cylinder and of the sphere is equal to the area of the right triangle shown.

Determine the height of the cylinder to 1 decimal-place accuracy.



11.



QUANTITY A

$$m + n$$

QUANTITY B

- (a) Quantity A is greater.
- (b) Quantity B is greater.

- (c) The two quantities are equal.
 (d) The relationship cannot be determined from the information given.
12. A metallic sheet of paper whose shape is a sector of 60° is extracted from a circle of diameter 18 inches. If the sector is used to make a cone, what would be the volume of the cone?

- (a) 95 cubic inches
 (b) 191 cubic inches
 (c) 7 cubic inches
 (d) 185 cubic inches
 (e) 50 cubic inches

13. The ratio of the sum of interior angles of polygons A and B is 4:5. The sum of their sides is 13.

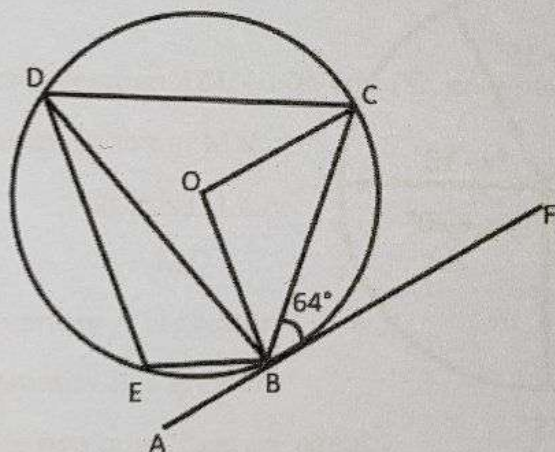
QUANTITY A

A sixth of the interior angle of A

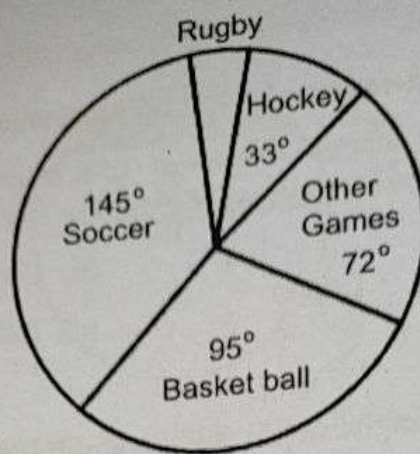
QUANTITY B

A seventh of the interior angle of B

- (a) Quantity A is greater.
 (b) Quantity B is greater.
 (c) The two quantities are equal.
 (d) The relationship cannot be determined from the information given.
14. In the figure below, O is the center of the circle, AF is the tangent line to the circle at B and angle $CBF = 64^\circ$. Find the size of angle COB.



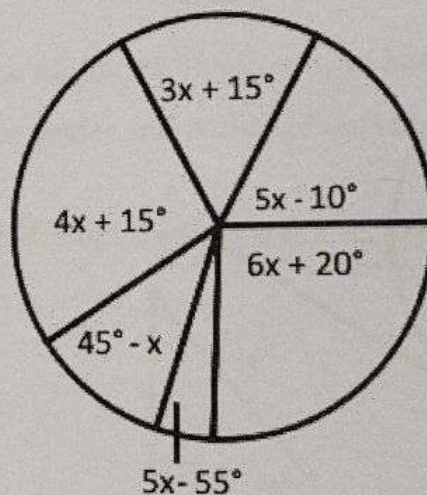
- (a) 308°
 (b) 232°
 (c) 296°
 (d) 128°
 (e) 52°
15. The ratio of the perimeter to the area of a rectangle is 12 : 35. Thrice the width is 2 inches more than twice the length. If the area of the rectangle is increased in the ratio of 5 : 2, find the new area
16. The figure below shows the distribution of the students in different games in our school. During the interschool games competition, 10 more than 30% of students playing Rugby were selected to represent the school in soccer competition. The other teams had the following number of students;
- Four less than 10% of basketball players
 Six less than a third of the hockey players
 4 more students for rugby than those selected for Basket ball
 One table tennis players



If 60% of the students that went for the competition did not get a gift, what is the percentage of students of the whole population got gifts from the competition; given that the school has 720 pupils?

- (a) 8%
- (b) 6%
- (c) 10%
- (d) 12%
- (e) 4%

17. The figure below shows a pie chart with different angular measurements given in terms of x . Find the number of sides of a polygon whose exterior angle is x .



- (a) 24 sides
- (b) 12 sides
- (c) 8 sides
- (d) 28 sides
- (e) 10 sides

18. Point B is the unknown location of a city on a coordinated plane. A line passes through the points A(3, 4) and B(r, s), and intersects x-axis at the point $x = 4$.

QUANTITY A

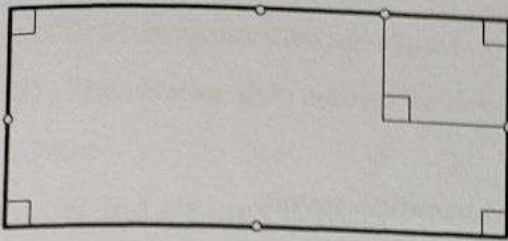
(2, 8)

QUANTITY B

B(r, s)

- (a) Quantity A is greater.
- (b) Quantity B is greater.
- (c) The two quantities are equal.
- (d) The relationship cannot be determined from the information given.

19. Length of the rectangle is as twice as its width, and the measure of one side of the square is as one half as the width of the rectangle. The perimeter of the square is 8.



QUANTITY A

Area of Rectangle

QUANTITY B

32

- (a) Quantity A is greater.
 (b) Quantity B is greater.
 (c) The two quantities are equal.
 (d) The relationship cannot be determined from the information given.
20. D_1 is a diameter of the circle A, and D_2 is a diameter of the circle B. Circumference of A is 24 in. and the area of B is 6 in^2 . Numerical value of the area of A is greater than the numerical value of the circumference of B.

QUANTITY A

D_1

QUANTITY B

D_2

21. Given the segments MN, NP, and PD, only points M, D, and N are collinear.

D is the midpoint of MN.

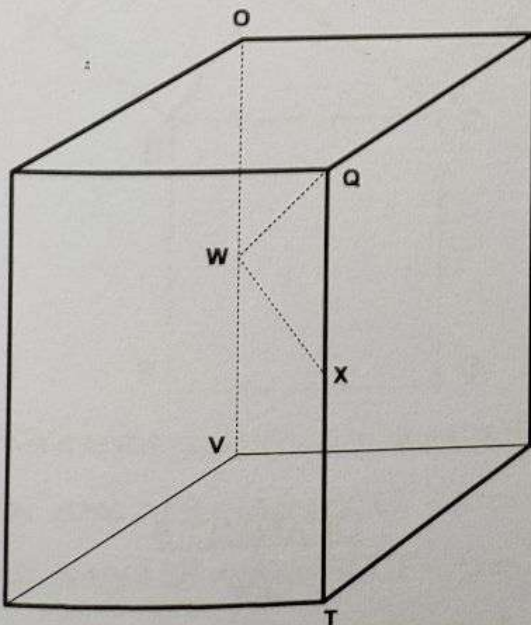
QUANTITY A

MD

QUANTITY B

$NP + DP$

- (a) Quantity A is greater.
 (b) Quantity B is greater.
 (c) The two quantities are equal.
 (d) The relationship cannot be determined from the information given.
22. W and X are the midpoints of OV and QT, respectively.

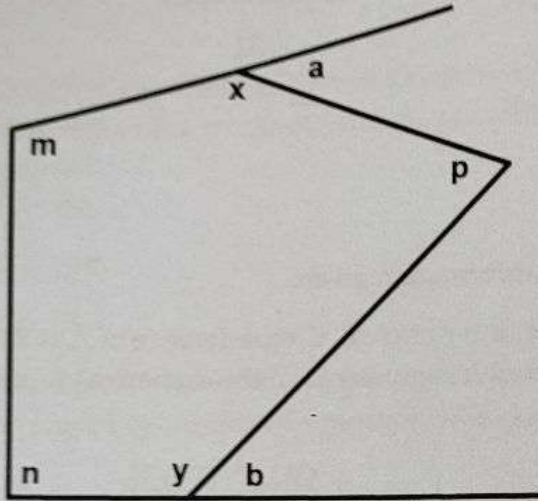


QUANTITY A

QW

- (a) A. Quantity A is greater.
 (b) B. Quantity B is greater.
 (c) C. The two quantities are equal.
 (d) D. The relationship cannot be determined from the information given.

23. Given: $m = 110^\circ$ $n = 90^\circ$



QUANTITY A

$a + b$

QUANTITY B

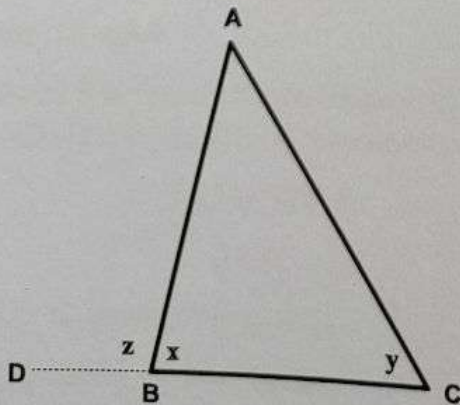
90°

- (a) Quantity A is greater.
 (b) Quantity B is greater.
 (c) The two quantities are equal.
 (d) The relationship cannot be determined from the information given.

24. Given:

$$x - y = 20^\circ$$

$$z - x = 20^\circ$$



QUANTITY A

Measure of Angle A

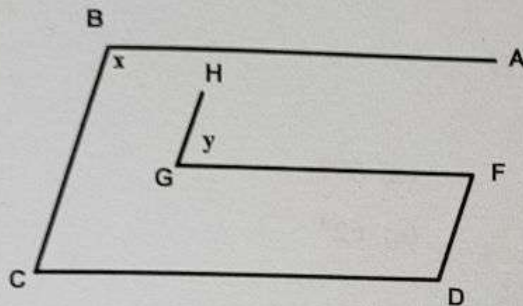
QUANTITY B

40°

- (a) Quantity A is greater.
- (b) Quantity B is greater.
- (c) The two quantities are equal.
- (d) The relationship cannot be determined from the information given.

25. Given:

- (1) GH and DF are parallel.
- (2) AB and FG are parallel.



QUANTITY A

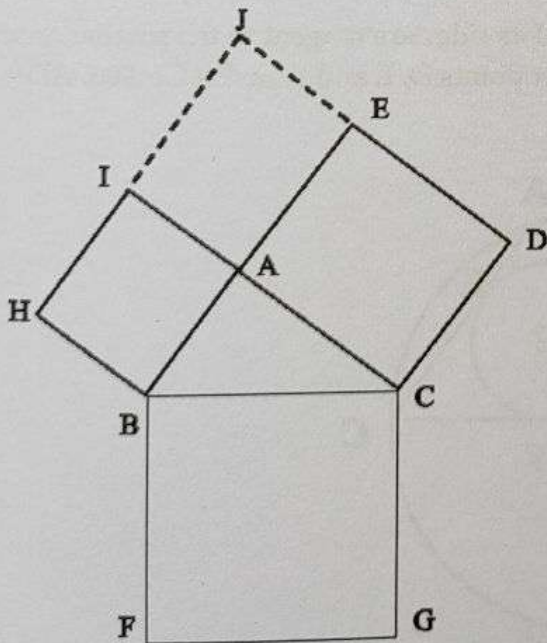
x

QUANTITY B

$y + 30^\circ$

- (a) Quantity A is greater.
- (b) Quantity B is greater.
- (c) The two quantities are equal.
- (d) The relationship cannot be determined from the information given.

26. ABC is a triangle with $m\angle BAC = 90^\circ$ and $m\angle ACB = 30^\circ$. Three squares ($ACDE$, $BCGF$ and $ABHI$) were built using the sides of triangle ABC as basis. HJ and DEJ are line segments.



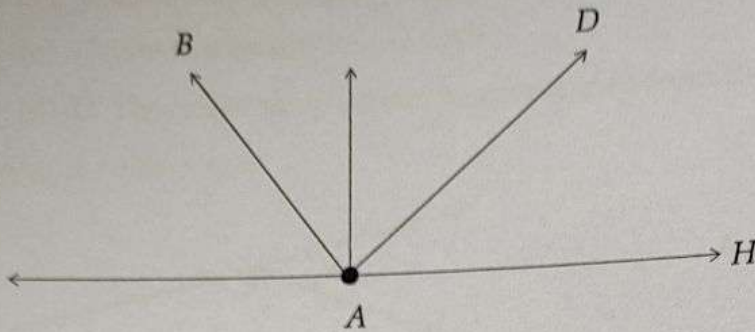
What is the area of quadrilateral $AEJI$?

- (a) $\text{Area } AEJI = (\text{Area } BCGF - \text{Area } ABHI) \times \sqrt{3}$
- (b) $\text{Area } AEJI = (\text{Area } BCGF - \text{Area } ABHI) / \sqrt{3}$
- (c) $\text{Area } AEJI = (\text{Area } BCGF - \text{Area } ACDE) / \sqrt{3}$

(d) $\text{Area AEJI} = \sqrt{\text{Area ACDE}} / 2$

(e) $\text{Area AEJI} = \text{Area ACDE} \times \sqrt{3}$

27. In the figure below Point A is on line GH. If x° is three less than y° , what is the measure of angle DAH?



(a) 28°

(b) 31°

(c) 45°

(d) 59°

(e) 62°

28. Which title best represents X in the table?

Name of quadrilateral	X	Four sides
Kites	Yes	Yes
Trapezoids	No	Yes

(a) Two pairs of consecutive congruent sides

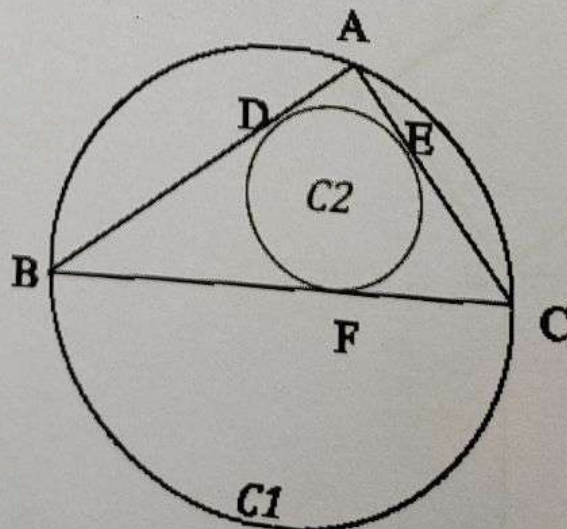
(b) Two pairs of opposite angles congruent

(c) Four congruent sides

(d) Congruent diagonals

(e) Sum of all angles is 180°

29. Triangle ABC is circumscribed by circle C_1 , while all its sides are tangent to the smaller, inscribed circle C_2 . The incircle touches triangle ABC's sides at points D, E and F. $m\angle BAC = 90^\circ$, $AD = 1$ and $CE = 2$. (figure not to scale)



Quantity A

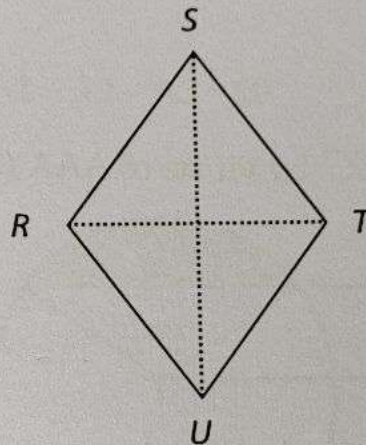
Area of circle C_1

Quantity B

Six times the Area of circle C_2

- (a) The quantity on the left is greater
- (b) The quantity on the right is greater
- (c) Both are equal
- (d) The relationship cannot be determined without further information

30. The diagram below shows rhombus RSTU. If $\angle RST = 5x - 14$ and $\angle UST = 2x + 4$, what is the value of x ?



(a) 2.5

(b) 4

(c) $5\frac{1}{3}$

(d) 18

(e) 22