

Level 8 Mathematics Chapter 4

Solution to Assignment Video 2

Exercise – 2

2. Solution

No. of sides = 6 sides (Hexagon)

Sum of interior angles of a polygon = $(n - 2) \times 180^\circ$

$$= (6 - 2) \times 180^\circ$$

$$= 4 \times 180^\circ$$

$$= 720^\circ$$

$$y = \frac{\textit{sum of interior angles}}{\textit{number of sides}}$$

$$y = \frac{720^\circ}{6}$$

$$y = 120^\circ$$

$x + y = 180^\circ$ (angles on a straight line add to 180°)

$$x + 120^\circ = 180^\circ$$

$$x = 180^\circ - 120^\circ$$

$$x = 60^\circ$$

9) Solution

Sum of exterior angles of a polygon = 360°

One exterior angle = 40°

$$\begin{aligned} \text{So, no. of sides for the regular polygon} &= \frac{360^\circ}{40} \\ &= \mathbf{9 \text{ sides}} \end{aligned}$$

Exercise – 3 (Solution to assignment answers – video 2)

1. Solution

To find a

$$a = 180^\circ - 64^\circ$$

(angles on a straight line added upto 180°)

$$\mathbf{a = 116^\circ}$$

To find b

$$a + b = 180^\circ \text{ (allied angles, add to } 180^\circ)$$

$$116^\circ + b = 180^\circ$$

$$b = 180^\circ - 116^\circ$$

$$\mathbf{b = 64^\circ}$$

To find c

$$c = b = 64^\circ \text{ (vertically opposite angles are equal)}$$

6. Solution

To find u

$$90^\circ + 42^\circ + u = 180^\circ$$

(The sum of angles of a triangle = 180°)

$$u = 180^\circ - 132^\circ$$

$$u = 48^\circ$$

To find t

$$42^\circ + t = 90^\circ$$

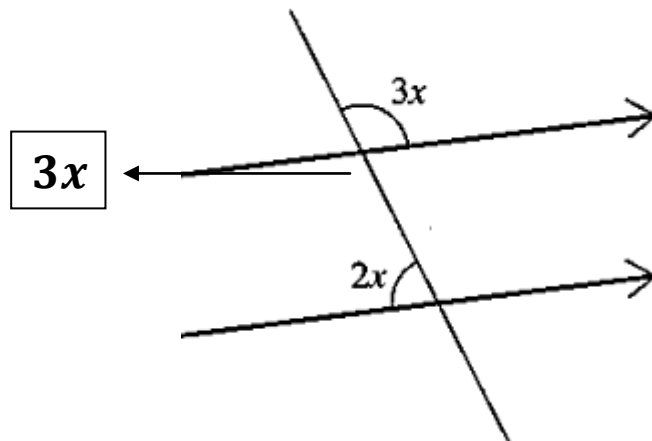
$$t = 90^\circ - 42^\circ$$

$$t = 48^\circ$$

To find y

$$y = 42^\circ \text{ (vertically opposite angles are equal)}$$

9)



Solution

(vertically opposite angles are equal)

To find x

$$2x + 3x = 180^\circ \text{ (allied angles)}$$

$$5x = 180^\circ$$

$$x = 36^\circ$$

$$\text{So, } 2x = 2 \times 36^\circ$$

$$2x = 72^\circ$$

$$3x = 3 \times 36^\circ$$

$$3x = 108^\circ$$

Exercise – 4 (Solution to assignment video 3)

Find x , all lengths are in cm.

4) Solution

$$x^2 = 9^2 + 9^2 \text{ (pythagores thorem)}$$

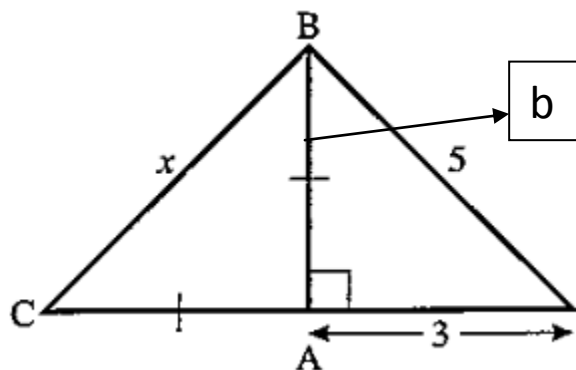
$$x^2 = 81 + 81$$

$$x^2 = 162$$

$$x = \sqrt{162}$$

$$x = 12.7 \text{ cm}$$

6)



Solution

$$b^2 = 5^2 + 3^2 \text{ (pythagores thorem)}$$

$$b^2 = 25 + 9 \text{ (pythagores thorem)}$$

$$b = \sqrt{34}$$

$$b = 5.8 \text{ cm}$$

$$x^2 = 4^2 + 4^2$$

$$x^2 = 16 + 16$$

$$x = \sqrt{32}$$

$$x = 5.66 \text{ cm}$$

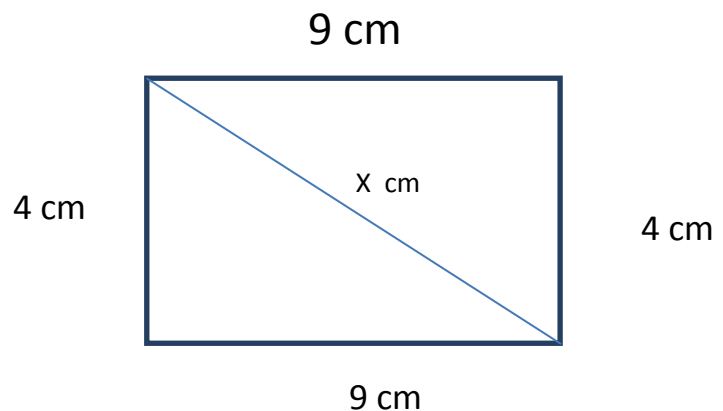
11. Solution

$$x^2 = 9^2 + 4^2$$

$$x^2 = 81 + 16$$

$$x = \sqrt{97}$$

$$x = 9.85 \text{ cm}$$



Length of the diagonal of the rectangle = 9.85 cm

12. Solution

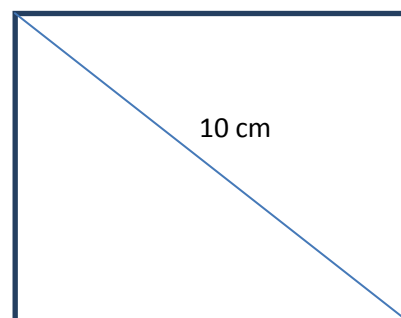
$$10^2 = x^2 + x^2 \text{ (pythagores theorem)}$$

$$100 = 2x^2$$

$$\frac{100}{2} = x^2$$

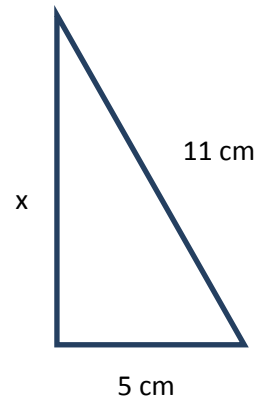
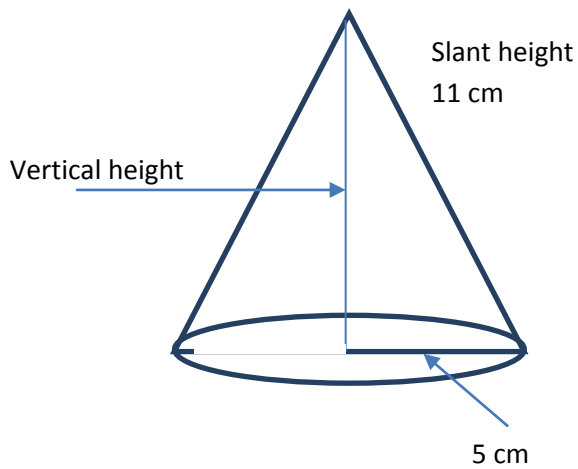
$$x = \sqrt{50}$$

$$x = 7.07 \text{ cm}$$



Sides of the square is 7.07 cm each

20. Solution



$$x^2 = 11^2 - 5^2$$

$$x^2 = 121 - 25$$

$$x^2 = 96$$

$$x = \sqrt{96}$$

$$x = 9.80 \text{ cm}$$

Vertical height of cone is 9.80 cm