

First question 6 marks each item 1 mark

Choose the correct answer from those given :

(1) In the opposite figure :

- $x = \dots\dots\dots$
 (a) $2\sqrt{5}$ (b) 36 (c) 20 (d) 6

(2) In the opposite figure :

- $x = \dots\dots\dots$
 (a) 5 (b) 2 (c) 3 (d) 7

(3) In the opposite figure :

In semicircle M, ED = $\dots\dots\dots$ cm.

- (a) $\frac{50}{13}$ (b) $\frac{55}{13}$ (c) $\frac{57}{13}$ (d) $\frac{59}{13}$

(4) Any two regular polygons with the same number of sides are $\dots\dots\dots$

- (a) congruent. (b) equal in area.
 (c) equal in perimeter. (d) similar.

(5) In the opposite figure :

\overline{AD} is a tangent to the circle, then AC = $\dots\dots\dots$ cm.

- (a) $\sqrt{3}$ (b) 3 (c) 18 (d) 6

(6) In the opposite figure :

$\frac{a(\Delta ABE)}{a(\Delta CDE)} = \dots\dots\dots$

- (a) $\frac{9}{49}$ (b) $\frac{25}{49}$ (c) $\frac{9}{25}$ (d) $\frac{16}{49}$

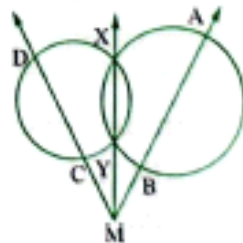
Second question 4 marks [a] 2 marks [b] 2 marks

[a] ABC, DEF are two similar triangles, X is the midpoint of \overline{BC} and Y is the midpoint of \overline{EF}

Prove that : $\Delta ABX \sim \Delta DEY$

[b] In the opposite figure :

Prove that : One circle passes by the points A, B, C and D



(5) $AD^2 = AB \cdot AC$

$(3\sqrt{2})^2 = 18 = x \cdot 2x$

$\frac{2x^2}{2} = \frac{18}{2}$

$x^2 = 9 \quad x = 3$

(6) $\frac{BE^2}{DE^2} = \frac{AE^2}{CE^2} = \frac{AB^2}{CD^2} =$

$BE = \sqrt{5^2 - 3^2} = 4$

$\frac{4^2}{72} = \frac{16}{49}$

$x^2 = AB \cdot AC$
 $\sqrt{x^2} = 4 \cdot 9 = \sqrt{36}$

$x = 6$

$AE \cdot EB = CE \cdot ED$

$x \cdot (x-2) = 1 \cdot 3$

$x^2 - 2x = 3$

$x^2 - 2x - 3 = 0$

$(x+1)(x-3) = 0$

$x = -1 \quad x = 3$

ref.

$BE \cdot EC = AE \cdot ED$
 $11 \cdot 5 = \dots$
 $ED = 55$
 AE
 13

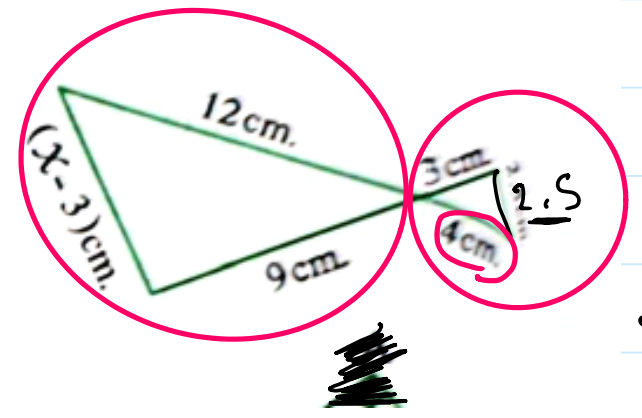
In the opposite figure :

$x = \dots\dots\dots$

- (a) $\frac{15}{2}$
- (c) 14

(b) 27

(d) $10\frac{1}{2}$



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$$\frac{4}{12} = \frac{3}{9} \quad \times \quad \frac{2.5}{x-3}$$

$$\frac{4}{9} = \frac{3}{12}$$

$$\frac{1}{3} = \frac{2.5}{x-3}$$

$$x-3 = 7.5$$

$$x = 10.5$$