

FORM 3

CHAPTER 6

Summative Practice

Section A

1 $x = \frac{70^\circ}{2} = 35^\circ$

Answer: **B**

2 Triangle ABC is an equilateral triangle.

$$\angle BAC = \angle DAC = 60^\circ$$

$$\therefore \angle BAD = 120^\circ$$

$$\angle ABD = \angle ADB = x^\circ$$

$$x = \frac{180^\circ - 120^\circ}{2} = 30^\circ$$

Answer: **C**

3 $\angle POR = 360^\circ - 46^\circ - 90^\circ - 90^\circ = 134^\circ$

$$\text{Angle of } PSR = \frac{134^\circ}{2} = 67^\circ$$

Answer: **D**

4 $\angle FEG = \angle FHG = 39^\circ$

$$\angle FTE = 180^\circ - 39^\circ - 17^\circ = 124^\circ$$

$$x = 180^\circ - 124^\circ = 56^\circ$$

Answer: **B**

5 $\angle MON = 180^\circ - 90^\circ - 36^\circ = 54^\circ$

$$x = \frac{54^\circ}{2} = 27^\circ$$

Answer: **A**

6 $s = \angle PQM = 108^\circ$

$$\angle QMN = 180^\circ - 76^\circ = 104^\circ$$

$$\angle QPN = 76^\circ$$

$$r = 76^\circ - 40^\circ = 36^\circ$$

$$r + s = 108^\circ + 36^\circ$$

$$= 144^\circ$$

Answer: **C**

7 $a = 180^\circ - 145^\circ = 35^\circ$

$$a = b = c = 35^\circ$$

$$d = 2(35^\circ) = 70^\circ$$

$$a + b + c + d = 35^\circ + 35^\circ + 35^\circ + 70^\circ = 175^\circ$$

Answer: **D**

8 $\angle OCN = 90^\circ$

$$\angle OCB = \angle OBC$$

$$= 90^\circ - 63^\circ$$

$$= 27^\circ$$

$$x = 90^\circ - \angle OBC$$

$$= 90^\circ - 27^\circ$$

$$= 63^\circ$$

Answer: **D**

9 $\angle ACB = 90^\circ$

$$\angle OAC = \angle OCA = 27^\circ$$

$$\angle OCB = 90^\circ - 27^\circ = 63^\circ$$

$$x + 2x = 63^\circ$$

$$3x = 63^\circ$$

$$x = 21^\circ$$

Answer: **B**

10 Let $x = y = k$ because the length of arc

$$ST = UV.$$

$$\text{Length of arc } UT = 4k$$

$$4k = 64^\circ$$

$$k = 16^\circ$$

$$\therefore x = y = 16^\circ$$

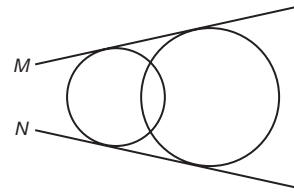
$$x + y = 16^\circ + 16^\circ = 32^\circ$$

Answer: **B**

Section B

- 1 (a) (i) Pairs of angles that have the same value: $a = b, g = h$
 (ii) Pairs of angles with twice the value of its paired angle:
 $c = 2a = 2b$

(b)



2 (a) True

(b) False

(c) False

(d) True

Section C

1 (a) (i) $x = 180^\circ - 112^\circ = 68^\circ$

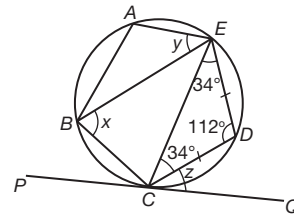
(ii) $\angle CED = \angle ECD$

$$= \frac{180^\circ - 112^\circ}{2}$$

$$= 34^\circ$$

Length of arc $CD = 2$ times the length of arc AB

$$y = \frac{34^\circ}{2} = 17^\circ$$



(iii) $z = \angle CED$
 $= 34^\circ$

(b) (i) $\angle ACO = 90^\circ$

$$\angle AOC = 180^\circ - 90^\circ - 39^\circ$$

$$= 51^\circ$$

$$y = \frac{51^\circ}{2} = 25.5^\circ$$

$$\angle ABE = 180^\circ - 75^\circ = 105^\circ$$

$$\angle BEA = \angle FEG$$

$$= 180^\circ - 39^\circ - 105^\circ$$

$$= 36^\circ$$

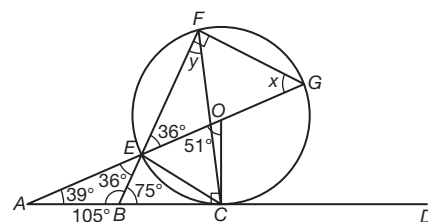
$$\angle EFG = 90^\circ$$

$$x = 180^\circ - 90^\circ - 36^\circ$$

$$= 54^\circ$$

$$x - 2y = 54^\circ - 2(25.5^\circ)$$

$$= 3^\circ$$



(ii) Angle that has the same value as $x = \angle FCE$.