TINGKATAN 2

BAB 7

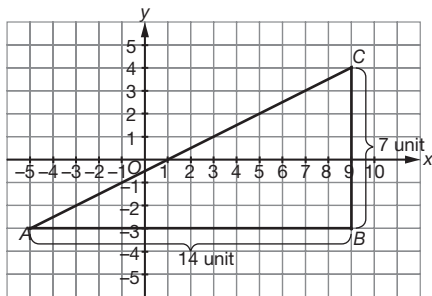#### Praktis Sumatif

Bahagian A

1. Berjarak sama dari paksi-x dan paksi-y
   = 8 unit: $(8, -8)$
   Jawapan: **D**

2. Jarak $= \sqrt{(3 - (-3))^2 + (1 - (-7))^2}$
   $= \sqrt{36 + 64}$
   $= \sqrt{100}$
   $= 10$ unit
   Jawapan: **D**

3. $P =$ Titik tengah $RS = \left(\dfrac{-4 + 2}{2}, \dfrac{3 + (-5)}{2}\right)$
   $= (-1, -1)$
   Jawapan: **B**

4. $Q = (-5, -2 - 7) = (-5, -9)$
   Jawapan: **B**

5. Jarak $PQ = 9 - (-5)$
   $= 14$ unit
   Jarak $QR = 4 - (-3)$
   $= 7$ unit
   Luas $= \dfrac{1}{2}(7)(14) = 49$ unit^2

   Jawapan: **C**

6. Koordinat-x bagi titik P dan $Q = 6 - 11$
   $= -5$
   Luas $PQR = 55$ unit^2
   $\dfrac{1}{2}(11)(PQ) = 55$
   $PQ = 10$ unit
   Koordinat-y bagi titik $P = 10 - 3$
   $= 7$
   Koordinat $P = (-5, 7)$
   Jawapan: **D**

7. $Q =$ titik tengah PR
   $\left(\dfrac{5 + 3}{2}, \dfrac{-1 + (-3)}{2}\right) = (4, -2) \rightarrow k = -2$
   Jawapan: **B**

8. Dengan menggunakan teorem Pythagoras, jarak dari asalan:
   $(0, 11) = 11$ unit
   $(-3, 4) = 5$ unit
   $(6, -8) = 10$ unit
   $(-12, -5) = 13$ unit (paling jauh)
   Jawapan: **D**

9. $\sqrt{(7 - 4)^2 + (6 - p)^2} = 5$
   $9 + (6 - p)^2 = 25$
   $(6 - p)^2 = 16$
   $6 - p = \sqrt{16}$
   $6 - p = \pm 4$
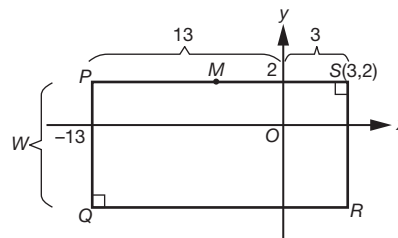 $p = 6 - 4 = 2$ atau $p = 6 - (-4) = 10$ (I, III)
   Jawapan: **C**

10. $T = (-5, 6)$, $V =$ titik tengah $TW = (-1, 2)$, $W = (x, y)$
    $\left(\dfrac{-5 + x}{2}, \dfrac{6 + y}{2}\right) = (-1, 2)$
    $\dfrac{-5 + x}{2} = -1 \qquad\qquad \dfrac{6 + y}{2} = 2$
    $-5 + x = -2 \qquad\qquad 6 + y = 4$
    $x = 3 \qquad\qquad\qquad y = -2$
    $\therefore W = (3, -2)$
    Jawapan: **A**

Bahagian B

1. (a) (i) $EF = 11$ unit di bawah paksi-$x \rightarrow y = -11$
   Koordinat $E = (-9, -11)$
   (ii) $EF = 15$ unit $\rightarrow$ koordinat-x bagi F
   $= 15 - 9$
   $= 6$
   Koordinat $F = (6, -11)$

   (b) Titik tengah $EF = \left(\dfrac{-9 + 6}{2}, \dfrac{-11 + (-11)}{2}\right)$
   $= \left(\dfrac{-3}{2}, -11\right)$

   Titik tengah EF berada pada sukuan ketiga.

2. (a) $M = (-5, 2)$, $P = (-13, 2)$, $S = (x, 2)$
   $\left(\dfrac{-13 + x}{2}, \dfrac{2 + 2}{2}\right) = (-5, 2)$
   $-13 + x = -10$
   $x = 3$
   Maka, $S = (3, 2)$
   Luas segi empat $= 96$
   $16 \times w = 96$
   $w = 6$ unit

   (i) Koordinat $Q = (-13, -4)$
   (ii) Koordinat $S = (3, 2)$
   (b) (i) Panjang $PQ = 4 + 2$
   $= 6$ unit
   (ii) Perimeter $= 16 + 16 + 6 + 6$
   $= 44$ unit

Bahagian C

1. (a) (i) $T =$ titik tengah JL
   $T = \left(\dfrac{-2 + 4}{2}, \dfrac{5 + (-1)}{2}\right) = (1, 2)$

(ii) Jarak $JK = LM$

$= \sqrt{(-6-(-2))^2 + (-1-5)^2}$

$= \sqrt{(-4)^2 + (-6)^2}$

$= \sqrt{52}$

$= 7.21$

Jarak $KL = JM$

$= \sqrt{(-6-4)^2 + (-1-(-1))^2}$

$= \sqrt{(-10)^2 + (0)^2}$

$= 10$

Perimeter $= 10(2) + 7.21(2)$

$\qquad\qquad = 34.42$ unit

(b) $\sqrt{(-3-p)^2 + (9-9)^2} = 4$

$\qquad\qquad (-3-p)^2 = 16$

$\qquad\qquad -3-p = \pm 4$

$p = -3 - 4 = -7$ atau $p = -3 - (-4) = 1$

(c) $AB = \sqrt{(-1-11)^2 + (3-1)^2}$

$\qquad = \sqrt{(-12)^2 + 2^2} = \sqrt{148}$

$AC = \sqrt{(-1-6)^2 + (3-8)^2}$

$\qquad = \sqrt{(-7)^2 + (-5)^2} = \sqrt{74}$

$BC = \sqrt{(11-6)^2 + (1-8)^2}$

$\qquad = \sqrt{5^2 + (-7)^2} = \sqrt{74}$

$AC = BC \neq AB$, Maka, ABC ialah segi tiga sama kaki.