

# Penyelesaian Lengkap

## PRAKTIS 2

### Bahagian A

1  $-2x(5x - 6y + 7) = -10x^2 + 12xy - 14x$

Jawapan/Answer: D

2  $(4m + 5n)(2m - 3n) = 8m^2 - 12mn + 10mn - 15n^2$   
 $= 8m^2 - 2mn - 15n^2$

Jawapan/Answer: A

3  $(6m - 5)^2 = (6m - 5)(6m - 5)$   
 $= 36m^2 - 30m - 30m + 25$   
 $= 36m^2 - 60m + 25$

Jawapan/Answer: C

4  $(2x + 3y)(2x - 3y) + 2x(x - 5y)$   
 $= 4x^2 - 6xy + 6xy - 9y^2 + 2x^2 - 10xy$   
 $= 6x^2 - 9y^2 - 10xy$

Jawapan/Answer: B

5 Luas/Area =  $\frac{1}{2}(3x - 1 + 5x + 3)(3x)$   
 $= \frac{3x}{2}(8x + 2)$   
 $= 12x^2 + 3x$

Jawapan/Answer: A

6  $100 - 4m^2 = 4(25 - m^2)$   
 $= 4(5^2 - m^2)$   
 $= 4(5 + m)(5 - m)$

Jawapan/Answer: D

7 

$3x$	$-5$	$-5x$
$x$	$8$	$24x$
$3x^2$	$-40$	$19x$

$(3x - 5)(x + 8)$

Jawapan/Answer: C

8 

$4y$	$-3$	$3y$
$-y$	$+7$	$28y$
$-4y^2$	$-21$	$31y$

$(4y - 3)(7 - y)$

Jawapan/Answer: B

9  $4mx + 14ny - 8my - 7nx$   
 $= 4mx - 8my - 7nx + 14ny$   
 $= 4m(x - 2y) - 7n(x - 2y)$   
 $= (4m - 7n)(x - 2y)$

Jawapan/Answer: A

10 Bilangan kotak/Number of boxes  
 $= \frac{48m^2 + 34m + 6}{6m + 2}$

$$= \frac{(8m + 3)(6m + 2)}{6m + 2}$$

$$= 8m + 3$$

Jawapan/Answer: B

11  $\frac{8}{9y} - \frac{2}{3y} = \frac{8}{9y} - \frac{2(3)}{3y(3)}$   
 $= \frac{8 - 6}{9y}$   
 $= \frac{2}{9y}$

Jawapan/Answer: D

12  $\frac{5a}{8} + \frac{2b}{3c} = \frac{5a(3c)}{8(3c)} + \frac{2b(8)}{3c(8)}$   
 $= \frac{15ac + 16b}{24c}$

Jawapan/Answer: D

13  $\frac{m}{6x} - \frac{3m}{16xy} = \frac{m(8y)}{6x(8y)} - \frac{3m(3)}{16xy(3)}$   
 $= \frac{8my - 9m}{48xy}$

Jawapan/Answer: A

14  $\frac{4a^2 - 9}{5ab} \times \frac{2a^2}{2a - 3}$   
 $= \frac{(2a - 3)(2a + 3)}{5ab} \times \frac{2a^2}{2a - 3}$   
 $= \frac{2a + 3}{5b} \times 2a$   
 $= \frac{2a(2a + 3)}{5b}$

Jawapan/Answer: C

15  $\frac{4m^2 - n^2}{6m + 9n} \div \frac{(2m + n)^2}{4m + 6n}$   
 $= \frac{(2m - n)(2m + n)}{3(2m + 3n)} \times \frac{2(2m + 3n)}{(2m + n)(2m + n)}$   
 $= \frac{2m - n}{3} \times \frac{2}{2m + n}$   
 $= \frac{2(2m - n)}{3(2m + n)}$

Jawapan/Answer: D

16  $\frac{3}{7b}(14a - 21b) - \frac{a}{2b}$   
 $= \frac{3}{7b} \times 7(2a - 3b) - \frac{a}{2b}$   
 $= \frac{3(2a - 3b)}{b} - \frac{a}{2b}$   
 $= \frac{6(2a - 3b)}{2b} - \frac{a}{2b}$

$$= \frac{12a - 18b - a}{2b}$$

$$= \frac{11a - 18b}{2b}$$

Jawapan/Answer: B

### Bahagian B

- 1 (a)  $(3p - 4)^2 = (3p - 4)(3p - 4)$   
 $= 9p^2 - 12p - 12p + 16$   
 $= 9p^2 - 24p + 16$   
 $(3p - 4)(3p + 4) = 9p^2 + 12p - 12p - 16$   
 $= 9p^2 - 16$
- (b) (i) Luas/Area  $= (3x - 2)(3x - 2)$   
 $= 9x^2 - 6x - 6x + 4$   
 $= 9x^2 - 12x + 4$
- (ii) Luas/Area  $= (4x + 3)(2x - 1)$   
 $= 8x^2 - 4x + 6x - 3$   
 $= 8x^2 + 2x - 3$

- 2 (a)  $\frac{8m}{2m} = 4$  dan/and  $\frac{12mn}{2m} = 6n$   
 $\frac{8m}{4} = 2m$  dan/and  $\frac{12mn}{4} = 3mn$

Jawapan/Answer = 2m, 4

- (b) (i)  $8(5 - 2x) = 40 - 16x$   
(ii)  $-5m(n + 4) = -5mn - 20m$

- 3 (a)  $25m^2 - 81 = (5m)^2 - 9^2$   
 $= (5m + 9)(5m - 9)$  [X]
- (b)  $(5n + 4)(3n - 2) = 15n^2 - 10n + 12n - 8$   
 $= 15n^2 + 2n - 8$  [✓]
- (c)  $(3x - 7)(5 - x) = 15x - 3x^2 - 35 + 7x$   
 $= -3x^2 + 22x - 35$  [X]
- (d)  $5ab - 15ad + 4bc - 12cd$   
 $= 5a(b - 3d) + 4c(b - 3d)$   
 $= (5a + 4c)(b - 3d)$  [✓]

- 4 (a)  $\frac{5m}{7} + \frac{4m}{7} = \frac{5m + 4m}{7}$   
 $= \frac{9m}{7}$

BENAR/TRUE

- (b)  $\frac{4y}{3x} - \frac{10y}{3x} = \frac{4y - 10y}{3x}$   
 $= \frac{-6y}{3x}$   
 $= \frac{-2y}{x}$

PALSU/FALSE

- (c)  $\frac{2x + 3}{9y} - \frac{2x - 4}{9y} = \frac{2x + 3 - (2x - 4)}{9y}$   
 $= \frac{7}{9y}$

BENAR/TRUE

- (d)  $\frac{7}{mn} + \frac{3k}{n} = \frac{7}{mn} + \frac{3k(m)}{n(m)}$   
 $= \frac{7 + 3km}{mn}$

BENAR/TRUE

### Bahagian C

- 1 (a) (i)  $p(5 - q) = 5p - pq$   
(ii)  $14mn + 16m - 35n - 40$   
 $= 2m(7n + 8) - 5(7n + 8)$   
 $= (2m - 5)(7n + 8)$

(b)  $\frac{5}{7m} - \frac{\frac{1}{3}(5 - 9n)}{7m} = \frac{5}{7m} - \frac{5 - 9n}{21m}$   
 $= \frac{5(3)}{7m(3)} - \frac{5 - 9n}{21m}$   
 $= \frac{15 - (5 - 9n)}{21m}$   
 $= \frac{10 + 9n}{21m}$

(c)  $\frac{mn + 7n}{8m} \div \frac{m^2 - 49}{24}$   
 $= \frac{n(m + 7)}{8m} \times \frac{24}{(m - 7)(m + 7)}$   
 $= \frac{3}{m - 7}$

- 2 (a) (i)  $-6p(q - 3) = -6pq + 18p$

(ii) 
$$\begin{array}{r|l} 3x & -5 \\ & \swarrow \quad \searrow \\ & 2x & 7 \\ \hline 6x^2 & -35 & 11x \end{array}$$

$$6x^2 + 11x - 35 = (3x - 5)(2x + 7)$$

- (b) Luas rantau berlerek  
 $=$  Luas trapezium  $-$  Luas segi tiga  
*Area of shaded region*  
 $=$  *Area of trapezium*  $-$  *Area of triangle*  
 $= \frac{1}{2}(3x + 2 + 7x - 4)(4x + 1) - \frac{1}{2}(3x + 2)(x + 4)$

$$= \frac{1}{2}(10x - 2)(4x + 1) - \frac{1}{2}(3x^2 + 12x + 2x + 8)$$

$$= (5x - 1)(4x + 1) - \frac{3}{2}x^2 - 7x - 4$$

$$= 20x^2 + 5x - 4x - 1 - \frac{3}{2}x^2 - 7x - 4$$

$$= \frac{37}{2}x^2 - 6x - 5$$

- (c)  $\frac{3}{4q} - \frac{2p - 9}{12q} = \frac{3(3)}{4q(3)} - \frac{2p - 9}{12q}$

$$= \frac{9 - (2p - 9)}{12q}$$

$$= \frac{9 - 2p + 9}{12q}$$

$$= \frac{18 - 2p}{12q}$$

$$= \frac{2(9 - p)}{12q}$$

$$= \frac{9 - p}{6q}$$