Penyelesaian Lengkap

Bahagian A

1 Nisbah/*Ratio* = 10 : 10 + 15

= 10 : 25

$= \dfrac{10}{5} : \dfrac{25}{5}$

= 2 : 5

Jawapan/*Answer*: B
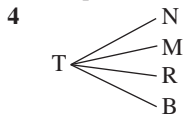
2 {P, R, O, D, U, C, T, I, V, E}

Jawapan/*Answer*: D

3 Satu nombor perdana hanya boleh dibahagi dengan 1 dan dirinya sendiri.

A prime number can only be divided by 1 and itself.

Nombor perdana/*Prime numbers* = 53, 59, 61, 67

Jawapan/*Answer*: A

4

T —— N
—— M
—— R
—— B

{(T, N), (T, M), (T, R), (T, B)}

Jawapan/*Answer*: D

5 Semua nombor dari 10 hingga 19 terdiri daripada nombor 2 digit.

All the numbers from 10 to 19 consist of 2-digit numbers.

Jawapan/*Answer*: C

6 S = {(J, 2), (J, 3), (J, 6), (J, 8), (U, 2), (U, 3), (U, 6), (U, 8)}

Peristiwa/*Event* = {(U, 2), (U, 3)}

Jawapan/*Answer*: A

7 $P(G) = \dfrac{15}{15 + 20 + 30}$

$= \dfrac{15}{65}$

$= \dfrac{3}{13}$

Jawapan/*Answer*: A

8 B = {1, 4, 9, 16, 25}

$P(B) = \dfrac{5}{25}$

$= \dfrac{1}{5}$

$P(B') = 1 - P(B)$

$= 1 - \dfrac{1}{5}$

$= \dfrac{4}{5}$

Jawapan/*Answer*: D

9 B' = {11, 12, 14, 17, 19}

$n(S) = 10$

$P(B') = \dfrac{n(B')}{n(S)}$

$= \dfrac{5}{10}$

$= \dfrac{1}{2}$

Jawapan/*Answer*: B

10 $P(Z) = \dfrac{35}{35 + 20 + 45}$

$= \dfrac{35}{100}$

$= \dfrac{7}{20}$

$P(Z') = 1 - P(Z)$

$= 1 - \dfrac{7}{20}$

$= \dfrac{13}{20}$

Jawapan/*Answer*: D

11 A = {X, P, R, M, N, T, L}

$P(A) = \dfrac{7}{12}$

$P(A') = 1 - \dfrac{7}{12}$

$= \dfrac{5}{12}$

Jawapan/*Answer*: B

12 $P(G) = \dfrac{4}{9}$

$\dfrac{20}{20 + x} = \dfrac{4}{9}$

$4(20 + x) = 9 \times 20$

$20 + x = \dfrac{180}{4}$

$x = 45 - 20$

$x = 25$

Jawapan/*Answer*: B

13 Bilangan guli merah/*Number of red marbles* = x

Bilangan guli biru/*Number of blue marbles* = $x + 9$

$x + x + 9 = 35$

$2x = 26$

$x = 13$

Kebarangkalian/*Probability* $= \dfrac{x}{35} = \dfrac{13}{35}$

Jawapan/*Answer*: C

Bahagian B

1 (a) (i) ✗   (ii) ✓

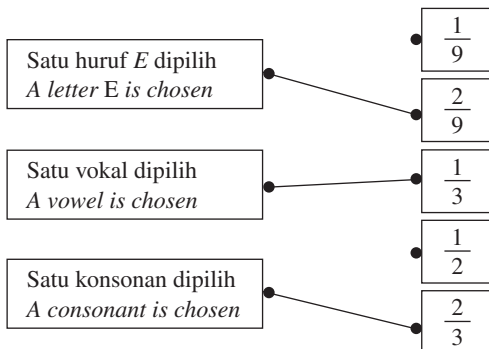(b) Faktor bagi 21/*Factors of* 21 = 1, 3, 7, 21

(i) Tidak mungkin berlaku/*May not occur*

(ii) Mungkin berlaku/*May occur*

2 (a) (iii) {31, 32, 33, 34, 35, 36, 37, 38, 39, 40}   [✓]

(b) (i) ✓   (ii) ✗   (iii) ✓

3 (a)

| Satu huruf *E* dipilih *A letter* E *is chosen* | — | $\frac{1}{9}$ |

(b) Tidak mungkin berlaku/*May not occur*

Bahagian C

1 (a) (i) Kebarangkalian/*Probability* $= \dfrac{64}{400}$

$$= \dfrac{4}{25}$$

(ii) Kebarangkalian/*Probability* $= \dfrac{82}{160}$

$$= \dfrac{41}{80}$$

(iii) Kebarangkalian/*Probability* $= \dfrac{21}{105}$

$$= \dfrac{1}{5}$$

(b) $\xi = \{1, 2, 3, 4, 5, 6, 7, 8\}$

(i) $P(A) = \dfrac{3}{8}$

(ii) $P(B) = \dfrac{2}{8} = \dfrac{1}{4}$

(iii) $P(B') = 1 - P(B)$

$$= 1 - \dfrac{1}{4} = \dfrac{3}{4}$$

(c) (i) $P(\text{Kad kuning/}Yellow\ card) = 1 - \dfrac{7}{15}$

$$= \dfrac{8}{15}$$

(ii) Bilangan awal kad kuning
Initial number of yellow cards

$$= \dfrac{8}{15} \times 90 = 48$$

$$\dfrac{48 - x}{90 - x} = \dfrac{2}{5}$$

$$5(48 - x) = 2(90 - x)$$

$$240 - 180 = -2x + 5x$$

$$3x = 60$$

$$x = 20$$

20 keping kad kuning disingkirkan.
20 *yellow cards were removed.*

2 (a) (i) Kebarangkalian/*Probability*

$$= \dfrac{12}{24 + 13 + 16 + 18 + 12 + 17}$$

$$= \dfrac{12}{100}$$

$$= \dfrac{3}{25}$$

(ii) Kebarangkalian/*Probability* $= 1 - \dfrac{(16 + 18)}{100}$

$$= 1 - \dfrac{34}{100}$$

$$= 1 - \dfrac{17}{50}$$

$$= \dfrac{33}{50}$$

(b) $S = \{16, 17, 18, ..., 40\}$
$n(S) = 25$

(i) {20, 25, 30, 35, 40}

Kebarangkalian/*Probability* $= \dfrac{5}{25}$

$$= \dfrac{1}{5}$$

(ii) Nombor perdana/*Prime numbers*
$= \{17, 19, 23, 29, 31, 37\}$

Kebarangkalian/*Probability* $= 1 - \dfrac{6}{25}$

$$= \dfrac{25}{25} - \dfrac{6}{25}$$

$$= \dfrac{19}{25}$$

(c) (i) $S = \{(3, E), (3, T), (5, E), (5, T), (7, E), (7, T),$
$(9, E), (9, T)\}$

(ii) (a) {(3, E), (9, E)}

Kebarangkalian/*Probability* $= \dfrac{2}{8}$

$$= \dfrac{1}{4}$$

(b) {(3, T), (5, T), (7, T)}

Kebarangkalian/*Probability* $= \dfrac{3}{8}$