Jawapan

Praktis 9

Praktis Formatif

1 Jarak yang dilalui
Distance travelled
$= 30 \times \frac{43}{60}$
$= 21.5$ km
Jawapan/*Answer*: **B**

2 (a) Lori itu bergerak sejauh [70] km dalam masa 1 jam.
The lorry travels a distance of [70] km *in a time of* 1 *hour.*

(b) Kanak-kanak itu boleh berjalan sejauh 10 m dalam masa [1] minit.
The little child can walk a distance of 10 m *in a time of* [1] *minute.*

(c) Burung itu terbang sejauh [8] m dalam masa [1] s.
The bird flies for a distance of [8] m *in a time of* [1] s.

3 Bala, Yunus, Nasir, Elmi, Sukri, Chew

4 (a) Laju tak seragam/*Non-uniform speed*
(b) Laju seragam/*Uniform speed*

5 (a) Laju seragam. Motosikal itu bergerak melalui jarak 5 km dalam selang masa 10 minit.
Uniform speed. The motorcycle travels through a distance of 5 km *in time intervals of* 10 *minutes.*

(b) Laju tak seragam. Lori itu bergerak melalui jarak-jarak berlainan dalam selang masa 20 saat.
Non-uniform speed. The lorry travels through different distances in time intervals of 20 *seconds.*

6 (a) Laju seragam/*Uniform speed*
(b) Laju tak seragam/*Non-uniform speed*

7 (a) (i) Laju teksi dari stesen teksi ke stesen minyak
Speed of taxi from taxi station to petrol kiosk
$= \frac{200}{2}$
$= 100$ km/j
100 km/h

(ii) Laju dari stesen minyak ke bandar
Speed from petrol kiosk to town
$= \frac{120}{1.5}$
$= 80$ km/j
80 km/h

(b) Teksi itu tidak bergerak dengan laju seragam.
The taxi is not travelling with uniform speed.

8 (a) Laju kura-kura
Speed of tortoise
$= \frac{90}{9}$
$= 10$ cm/s

(b) Laju pelari
$= \frac{1.6 \text{ km}}{20 \text{ minit}}$
$= 0.08$ km/minit
$= 0.08 \times 60$ km/j
$= 4.8$ km/j

Speed of runner
$= \frac{1.6 \text{ km}}{20 \text{ minutes}}$
$= 0.08$ km/*minute*
$= 0.08 \times 60$ km/h
$= 4.8$ km/h

9 (a) Jarak yang dilalui
Distance travelled
$= 15 \times 4$
$= 60$ m

(b) Jarak yang dilalui
Distance travelled
$= 70 \times \frac{90}{60}$
$= 105$ km

(c) Jarak yang dilalui
Distance travelled
$= 2 \times \frac{3}{4}(60)$
$= 90$ km

10 (a) Masa yang diambil
Time taken
$= \frac{418}{110}$
$= 3.8$ jam / 3.8 *hours*
$= 3$ jam 48 minit / 3 *hours* 48 *minutes*

(b) Masa yang diambil
Time taken
$= \frac{320}{64}$
$= 5$ jam / 5 *hours*

(c) Masa yang diambil
Time taken
$= \frac{185}{74}$
$= 2\frac{1}{2}$ jam / $2\frac{1}{2}$ *hours*

11 (a) Masa
Time
$= \frac{75}{50}$
$= 1.5$ jam
1.5 *hours*

(b) Laju purata
Average speed
$= \frac{72}{1.2}$
= 60 km/j
60 km/h

(c) Jarak yang dilalui
Distance travelled
= 75 × 2
= 150 km

(d) Laju purata
Average speed
$= \frac{126}{1.8}$
= 70 km/j
70 km/h

12 (a) $21 \text{ m/s} = \frac{21 \text{ m}}{1 \text{ s}}$

$= \frac{\frac{21}{1\,000} \text{ km}}{\frac{1}{3\,600} \text{ j/h}}$

$= \frac{21}{1\,000} \times 3\,600 \text{ km/j/km/h}$

= 75.6 km/j
75.6 km/h [✓]

(b) $42 \text{ cm/minit} = \frac{42 \text{ cm}}{1 \text{ minit/}minute}$

$= \frac{420 \text{ mm}}{60 \text{ s}}$

= 7 mm/s [✓]

(c) $54 \text{ km/j} = \frac{54 \text{ km}}{1 \text{ j/h}}$
54 km/h

$= \frac{54\,000 \text{ m}}{3\,600 \text{ s}}$

= 15 m/s [✗]

(d) $800 \text{ m/minit} = \frac{800 \text{ m}}{1 \text{ minit/}minute}$
800 m/*minute*

$= \frac{0.8 \text{ km}}{\frac{1}{60} \text{ j/h}}$

= 0.8 × 60 km/j
0.8 × 60 km/h
= 48 km/j
48 km/h [✗]

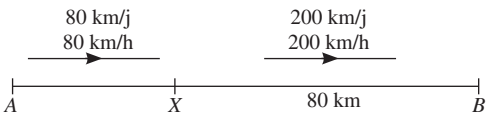
13 Jumlah jarak yang dilalui
Total distance travelled
= 3 800 + 2 100 + 2 500
= 8 400 m
= 8.4 km
Jumlah masa yang diambil
Total time taken
= 42 + 30 + 48
= 120 minit
120 *minutes*
Laju purata
Average speed
$= \frac{8.4}{120}$
= 0.07 km/minit
0.07 km/*minute*
Laju purata
Average speed
$= \frac{8.4}{2}$
= 4.2 km/j
4.2 km/h

14 (a) Jarak/*Distance PQ*

$= 90 \times 1\frac{1}{3}$
= 120 km
Jarak/*Distance PR*
= 120 + 80
= 200 km

(b) Jumlah masa yang diambil dari *P* ke *R*
Total time taken from P to R
$= 1\frac{1}{3} + \frac{2}{3}$
= 2 jam/*hours*
Laju purata/*Average speed*
$= \frac{200}{2}$
= 100 km/j
100 km/h

15



Jarak *AX*
Distance AX
= 80 × 0.5
= 40 km
Masa yang diambil untuk bergerak dari *X* ke *B*
Time taken to travel from X to B
$= \frac{80}{200}$
= 0.4 j
0.4 h
Jumlah jarak yang dilalui
Total distance travelled
= 40 + 80
= 120 km
Jumlah masa yang diambil
Total time taken
= 0.5 + *t* + 0.4
= *t* + 0.9

$\frac{120}{t + 0.9} = 60$

120 = 60(*t* +0.9)
120 = 60*t* + 54
66 = 60*t*
t =1.1

Jawapan/*Answer*: **A**

16 Pecutan
Acceleration
$= \frac{15 - 10}{20}$
$= \frac{5}{20}$
$= \frac{1}{4}$ m/s^2
Jawapan/*Answer*: **B**

17 (a) Laju teksi sewa itu [bertambah] 2 m/s dalam [1] s.
The speed of the chartered taxi [*increases*] 2 m/s *in* [1] s.

(b) Laju basikal itu [berkurang] [5] km/j dalam 1 [minit].
The speed of the bicycle [*decreases*] [5] km/h *in* 1 [*minute*].

18 (a) (i) Pecutan
$= \frac{(90 - 72) \text{ km/j}}{10 \text{ s}}$
$= \frac{18 \text{ km/j}}{10 \text{ s}}$
$= 1.8$ km/j/s

Acceleration
$= \frac{(90 - 72) \text{ km/h}}{10 \text{ s}}$
$= \frac{18 \text{ km/h}}{10 \text{ s}}$
$= 1.8$ km/h/s

(ii) Pecutan
$= \frac{(80 - 72) \text{ km/j}}{10 \text{ s}}$
$= \frac{8 \text{ km/j}}{10 \text{ s}}$
$= 1.8$ km/j/s

Acceleration
$= \frac{(80 - 72) \text{ km/h}}{10 \text{ s}}$
$= \frac{8 \text{ km/h}}{10 \text{ s}}$
$= 1.8$ km/h/s

Kereta dalam situasi (i) bergerak dengan pecutan yang lebih tinggi.
The car in situation (i) *travels with the higher acceleration.*

(b) (i) Pecutan/*Acceleration*
$= \frac{24 - 20}{30}$
$= \frac{4}{30}$
$= \frac{2}{15}$ m/s^2

(ii) Pecutan/*Acceleration*
$= \frac{24 - 20}{15}$
$= \frac{4}{15}$ m/s^2

Kereta dalam situasi (ii) bergerak dengan pecutan yang lebih tinggi.
The car in situation (ii) *travels with the higher acceleration.*

19 (a) Pecutan/*Acceleration*
$= \frac{9 - 5}{10}$
$= \frac{4}{10}$
$= 0.4$ m/s^2

(b) Pecutan/*Acceleration*
$= \frac{4 - 12}{20}$
$= -\frac{8}{20}$
$= -0.4$ m/s^2

(c) Pecutan/*Acceleration*
$= \frac{6 - 2}{5}$
$= \frac{4}{5}$
$= 0.8$ m/s^2

20 (a) Pecutan/*Acceleration*
$= \frac{15 - 12}{10}$
$= \frac{3}{10}$
$= 0.3$ m/s^2

(b) Pecutan/*Acceleration* = 0
$27 - u = 0$
$u = 27$

(c) Pecutan = -300 km/j^2
Acceleration = -300 km/h^2
$\frac{v - 88}{\frac{2}{60}} = -300$
$v - 88 = -300 \times \frac{2}{60}$
$v - 88 = -10$
$v = 78$

(d) Pecutan = 45 m/minit^2
Acceleration = 45 m/*minute*^{2}
$\frac{120 - 105}{\frac{t}{60}} = 45$
$15 = 45 \times \frac{t}{60}$
$60 = 3t$
$t = 20$

Praktis Sumatif

1 A 150 m/minit
150 m/*minute*
$= \frac{150 \text{ m}}{60 \text{ s}}$
$= 2.5$ m/s

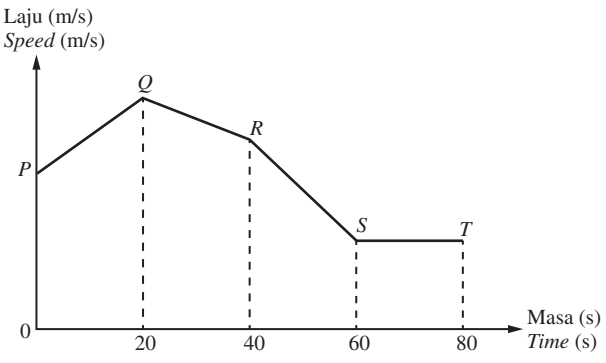
B 18 000 m/j
18 000 m/h
$= \frac{18\,000 \text{ m}}{3\,600 \text{ s}}$
$= 5$ m/s

C 7.2 km/j
7.2 km/h
$= \frac{7\,200 \text{ m}}{3\,600 \text{ s}}$
= 2 m/s

D $\frac{9}{20}$ km/minit
$\frac{9}{20}$ km/*minute*
$= \frac{9\,000 \text{ m}}{20 \times 60 \text{ s}}$
= 7.5 m/s

Jawapan/*Answer*: **C**

2



Garis lurus *ST* mewakili laju seragam.
Straight line ST represents uniform speed.
Jawapan/*Answer*: **D**

3 Dari *M* ke *N*/*From M to N*:
Masa yang diambil/*Time taken*
$= \frac{150}{50}$
= 3 jam/*hours*
Dari *N* ke *M*/*From N to M*:
Masa yang diambil/*Time taken*
= 3 − 0.5
= 2.5 jam/*hours*
Laju purata/*Average speed*
$= \frac{150}{2.5}$
= 60 km/j
60 km/h
Jawapan/*Answer*: **A**

4 45 minit = $\frac{45}{60}$ jam
45 *minutes* = $\frac{45}{60}$ *hour*
Jarak yang dilalui
Distance travelled
$= 80 \times \frac{45}{60}$
= 60 km
Jawapan/*Answer*: **B**

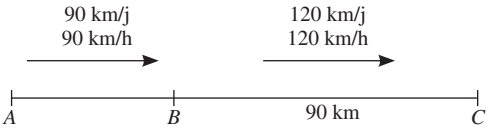
5 108 km/j
108 km/h
$= \frac{108 \times 1\,000 \text{ m}}{3\,600 \text{ s}}$
= 30 m/s
Pecutan/*Acceleration*
$= \frac{0 - 30}{20}$
$= -1\frac{1}{2}$ m/s^2
Jawapan/*Answer*: **A**

6 (a) 79 km/j, 85 km/j, 96 km/j, 112 km/j
79 km/h, 85 km/h, 96 km/h, 112 km/h

(b) Laju kereta berubah sepanjang perjalanan dari *A* ke *E*.
Maka, kereta itu tidak bergerak dengan laju seragam.
The speed of the car varies for the journey from A to E.
Therefore, the car is not travelling with uniform speed.

(c) Jumlah jarak yang dilalui dari *A* ke *E*
Total distance travelled from A to E
$= 85 \times \frac{15}{60} + 112 \times \frac{15}{60} + 79 \times \frac{15}{60} + 96 \times \frac{15}{60}$
$= (85 + 112 + 79 + 96) \times \frac{15}{60}$
$= 372 \times \frac{15}{60}$
= 93 km
Jumlah masa yang diambil untuk bergerak dari *A* ke *E*
Total time taken to travel from A to E
= 15 + 15 + 15 + 15
= 60 minit/*minutes*
= 1 jam/*hour*
Laju purata/*Average speed*
$= \frac{93}{1}$
= 93 km/j
93 km/h

7



(a) Jarak di antara *A* dan *B*
Distance between A and B
$= 90 \times 2\frac{2}{3}$
= 240 km

(b) Masa yang diambil untuk bergerak dari *B* ke *C*
Time taken to travel from B to C
$= \frac{90}{120}$
$= \frac{3}{4}$ jam
$\frac{3}{4}$ *hour*

Jumlah jarak yang dilalui dari *A* ke *C*
Total distance travelled from A to C
= 240 + 90
= 330 km
Jumlah masa yang diambil untuk bergerak dari *A* ke *C*
Total time taken to travel from A to C
$= 2\frac{2}{3} + \frac{35}{60} + \frac{3}{4}$
= 4 jam
4 *hours*
Laju purata kereta dari *A* ke *C*
Average speed of car from A to C
$= \frac{330}{4}$
= 82.5 km/j
82.5 km/h

8 (a) $\frac{u - 13}{8} = 1.5$

$u - 13 = 12$

$u = 25$

(b) $\frac{v - u}{18 - 8} = 0.9$

$\frac{v - 25}{10} = 0.9$

$v - 25 = 9$

$v = 34$