2.99 Distance, Speed and Time Problems: 10-minute Pack

Total Marks

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A train travels 90 km at an average speed of 40 km/h. How long does the journey take?

- ☐ A) 60 hours
- ☐ B) 2 hours 15 minutes
- ☐ C) 2 hours 25 minutes
- ☐ D) 26 minutes
- ☐ E) 2 hours

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2 Ravi drives 320 km at 80 km/h and then 96 km at 24 km/h. What is Ravi's average speed for the whole journey, in km/h?

- ☐ A) 51 km/h
- ☐ B) 208 km/h
- ☐ C) 52 km/h
- ☐ D) 104 km/h
- ☐ E) 53 km/h

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3 A coach travels at an average speed of 48 km/h for 20 minutes. How far does it travel?

- ☐ A) 16 km
- ☐ B) 144 km
- ☐ C) 15 km
- ☐ D) 48 km
- ☐ E) 960 km

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4 A runner travels 21 km at an average speed of 12 km/h. How long does the journey take?

- [ ] A) 1 hour 30 minutes
- [ ] B) 2 hours 15 minutes
- [ ] C) 34 minutes
- [ ] D) 1 hour 45 minutes
- [ ] E) 4 hours 12 minutes

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5 Kofi drives 45 km at 15 km/h and then 72 km at 36 km/h. What is Kofi's average speed for the whole journey, in km/h?

- [ ] A) 58.5 km/h
- [ ] B) 23.4 km/h
- [ ] C) 24.4 km/h
- [ ] D) 25.5 km/h
- [ ] E) 117 km/h

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6 A runner travels 2 km at an average speed of 5 km/h. How long does the journey take?

- [ ] A) 24 minutes
- [ ] B) 10 minutes
- [ ] C) 9 minutes
- [ ] D) 40 minutes
- [ ] E) 1 hour 24 minutes

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7 A car goes for 30 minutes at 40 km/h then for 1 hour at 60 km/h. What is its average speed for the whole journey? Give your answer to 2 decimal places.

- [ ] A) 50.00 km/h
- [ ] B) 52.00 km/h
- [ ] C) 53.33 km/h
- [ ] D) 54.00 km/h
- [ ] E) 55.00 km/h

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8 A driver travels 60 km at 80 km/h then 40 km at 40 km/h. What is the average speed for the entire journey? Give your answer to 2 decimal places.

- ☐ A) 55.00 km/h
- ☐ B) 56.25 km/h
- ☐ C) 57.14 km/h
- ☐ D) 58.33 km/h
- ☐ E) 60.00 km/h

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9 A van travels 90 km from a depot to a site, at an average speed of 60 km/h. It returns along a different route of length 100 km, taking 2 hours 12 minutes. Find the difference between the outward and return average speeds, giving your answer to 1 decimal place.

(3)

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Mark scheme · 2.99 Distance, Speed and Time Problems: 10-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

correct option B (2 hours 15 minutes) cao **B1**

Answer: B) 2 hours 15 minutes

Question 2

correct option C (52 km/h) cao **B1**

Answer: C) 52 km/h

Question 3

correct option A (16 km) cao **B1**

Answer: A) 16 km

Question 4

correct option D (1 hour 45 minutes) cao **B1**

Answer: D) 1 hour 45 minutes

Question 5

correct option B (23.4 km/h) cao **B1**

Answer: B) 23.4 km/h

Question 6

correct option A (24 minutes) cao **B1**

Answer: A) 24 minutes

Question 7

option C (53.33 km/h) cao **B1**

Answer: C) 53.33 km/h

Question 8

option C (57.14 km/h) cao **B1**

Answer: C) 57.14 km/h

Question 9

2 hours 12 minutes converted to 2.2 hours (or equivalent) seen **M1**

return average speed = 100 / 2.2 = 45.4545... km/h (awrt 45.5) seen **M1**

difference = 60 - 45.4545... = 14.5 km/h (awrt 14.5) cao **A1**

Answer: 14.5 km/h (return average speed = 100 / 2.2 = 45.5 km/h to 1 d.p.; difference from the outward 60 km/h = 14.5 km/h).

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