WONDERLEARNERZ PRIMARY ACADEMY â€" OFFICIAL ANSWER KEY & MARKING SCHEME

Speed, Distance, and Time: Worksheet 5 [ANSWER KEY]

Grade 5 | Mathematics | Ch 3: Speed, Distance, and Time | Total Marks: 19 | Time: 45 Minutes

Q1. A high-speed train travels 400 km in 4 hours at a steady pace. What is its average speed? [1 Mark]

Correct Answer: 100 km/h

Explanation: Speed = Distance / Time = 400 / 4 = 100 km/h.

Q2. If a delivery van travels at 105 km/h for 3 hours, how far does it travel? [1 Mark]

Correct Answer: 315 km

Explanation: Distance = Speed x Time = 105 x 3 = 315 km.

Q3. How long does it take a cyclist traveling at 15 km/h to cover a distance of 105 km? [1 Mark]

Correct Answer: 7 hours

Explanation: Time = Distance / Speed = 105 / 15 = 7 hours.

Q4. Which formula correctly expresses Speed in terms of Distance and Time? [1 Mark]

Correct Answer: Speed = Distance / Time

Explanation: Speed is defined as rate of distance covered per unit of time: Speed = Distance / Time.

Q5. A passenger bus departs from the Central Botanical Gardens and drives 210 km at a constant speed of 70 km/h. How many hours does the journey take? [1 Mark]

Correct Answer: 3 hours

Explanation: Time = Distance / Speed = 210 / 70 = 3 hours.

Q6. An express courier drives 180 km in the morning taking 3 hours, and 120 km in the afternoon taking 2 hours. What was the courier's average speed over the entire trip? [1 Mark]

Correct Answer: 60 km/h

Explanation: Total distance = 180 + 120 = 300 km. Total time = 3 + 2 = 5 hours. Average speed = 300 / 5 = 60 km/h.

Q7. A marathon runner maintains a steady pace of 12 km/h. How many kilometers does the runner complete in 2 hours and 30 minutes? [1 Mark]

Correct Answer: 30 km

Explanation: 2 hours and 30 minutes = 2.5 hours. Distance = 12 x 2.5 = 30 km.

Q8. Complete the equation: Distance = 360 km, Time = 4 hours, Speed = [?] km/h. [1 Mark]

Correct Answer: 90

Explanation: Speed = 360 / 4 = 90 km/h.

Q9. Fill in the missing time: Speed = 45 km/h, Distance = 135 km, Time = [?] hours. [1 Mark]

Correct Answer: 3

Explanation: Time = 135 / 45 = 3 hours.

Q10. Liam says: 'If I walk 6 km in 2 hours, my speed is 6 x 2 = 12 km/h.' Explain Liam's error and state his correct walking speed. [1 Mark]

Correct Answer: 3 km/h

Explanation: Liam multiplied distance by time instead of dividing. Correct speed = 6 / 2 = 3 km/h.

Q11. A driver calculates travel time for 200 km at 50 km/h as '50 / 200 = 0.25 hours'. What is the error and the correct travel time? [1 Mark]

Correct Answer: 4 hours

Explanation: The driver divided speed by distance. Time = Distance / Speed = 200 / 50 = 4 hours.

Q12. If Car A travels 150 km in 2 hours and Car B travels 210 km in 3 hours, which car traveled faster? Explain your reasoning with calculations. **[2 Marks]**

Correct Answer: Car A traveled faster. Car A's speed was 150 / 2 = 75 km/h, while Car B's speed was 210 / 3 = 70 km/h. 75 km/h > 70 km/h.

Explanation: Compare speeds: Car A (75 km/h) vs Car B (70 km/h). Car A is faster by 5 km/h.

Q13. Why is average speed often different from instantaneous speed on an actual highway trip? Explain using a real situation. **[2 Marks]**

Correct Answer: Instantaneous speed is the speed at a single moment (e.g. slowing for tolls or stopping at traffic lights), whereas average speed divides total trip distance by total elapsed time including stops.

Explanation: Stops, traffic, and speed variations make instant speed fluctuate, while average speed spans the entire elapsed time.

Q14. Two trains leave stations 400 km apart at the same time heading toward each other. Train A travels at 60 km/h and Train B travels at 40 km/h. After how many hours will they meet? **[2 Marks]**

Correct Answer: 4 hours

Explanation: Combined speed = 60 + 40 = 100 km/h. Time to meet = 400 / 100 = 4 hours.

Q15. A pilot flies 600 km to an island at 200 km/h, and returns along the same route at 300 km/h. What is the average speed for the entire round trip? **[2 Marks]**

Correct Answer: 240 km/h

Explanation: Outbound time = 600 / 200 = 3 h. Return time = 600 / 300 = 2 h. Total distance = 1,200 km. Total time = 5 h. Average speed = 1,200 / 5 = 240 km/h.