Multiple choice questions - Compound units and direct/inverse proportion

Year: Year 10 · 10

Question 1 A car travels 120 km in 1.5 h. Its speed is

- ◯ **A.** 60 km/h
- ◯ **B.** 80 km/h
- ◯ **C.** 90 km/h
- ◯ **D.** 180 km/h

Question 2 A block has mass 600 g and volume 300 cm^3. Its density is

- ◯ **A.** 2 g/cm^3
- ◯ **B.** 0.5 g/cm^3
- ◯ **C.** 180 000 g/cm^3
- ◯ **D.** 300 g/cm^3

Question 3 200 N acts on 0.5 m^2. The pressure is

- ◯ **A.** 100 N/m^2
- ◯ **B.** 400 N/m^2
- ◯ **C.** 0.0025 N/m^2
- ◯ **D.** 250 N/m^2

Question 4 At 50 mph for 3 hours the distance is

- ◯ **A.** 16.7 miles
- ◯ **B.** 53 miles
- ◯ **C.** 150 miles
- ◯ **D.** 47 miles

Question 5 36 km/h in m/s is

- ◯ **A.** 10 m/s
- ◯ **B.** 3.6 m/s
- ◯ **C.** 36 m/s
- ◯ **D.** 100 m/s

Question 6 The graph of direct proportion is

- ◯ **A.** a curve through the origin
- ◯ **B.** a straight line through the origin

- ◯ **C.** a straight line not through the origin
- ◯ **D.** a curve that never meets the axes

Question 7 4 men take 6 days. How long do 8 men take?

- ◯ **A.** 12 days
- ◯ **B.** 3 days
- ◯ **C.** 2 days
- ◯ **D.** 24 days

Question 8 If $y = 3x$ and $x = 5$, then $y =$

- ◯ **A.** 8
- ◯ **B.** 15
- ◯ **C.** 35
- ◯ **D.** 1.67

Question 9 (Higher) $y \propto \frac{1}{x}$ and $y = 10$ when $x = 2$. y when $x = 4$ is

- ◯ **A.** 5
- ◯ **B.** 20
- ◯ **C.** 2.5
- ◯ **D.** 40

Question 10 (Higher) $y \propto x^2$. If x doubles, y is multiplied by

- ◯ **A.** 2
- ◯ **B.** 4
- ◯ **C.** 8
- ◯ **D.** 16

Answer grid - Compound units and direct/inverse proportion

Year: Year 10

Question	Answer	Explanation
1	**B**	$120 \div 1.5$.
2	**A**	$\frac{600}{300}$.
3	**B**	$\frac{200}{0.5}$.
4	**C**	50×3.
5	**A**	$36 \div 3.6$.
6	**B**	$y = kx$.
7	**B**	Inverse proportion: $24 \div 8$.
8	**B**	3×5.
9	**A**	$k = 20$; $\frac{20}{4}$.
10	**B**	$(2x)^2 = 4x^2$.