

National 5 Physics
Waves
Check Test 1: Solutions

1. D

2. B

3. E

4. B

5. D

6. A

7. C

8. D

9. A

10. C

11. (a) B & C (1)

(b) A & D (1)

(c) X & Y OR Y & Z (1)

12. (a) The number of waves per second. (1)

(b) $f = \frac{N}{t}$ (1)

$= \frac{24}{60}$ (1)

$= 0.4 \text{ Hz}$ (1)

(c) $v = f\lambda$ (1)

$0.80 = 0.4 \times \lambda$ (1)

$\lambda = 2 \text{ m}$ (1)

(d) $d = vt$ (1)

$10 = 0.80 \times t$ (1)

$t = 12.5 \text{ s}$ (1)

13. (a) From the diagram: $\lambda = \frac{36}{8} = 4.5 \text{ cm}$ (1)

$$v = f\lambda \quad (1)$$

$$= 5 \times 0.045 \quad (1)$$

$$= 0.23 \text{ ms}^{-1} \quad (1)$$

(b) (i) Curves after barrier (1)

Equal spacing between curves (1)

(ii) Diffraction (1)