

**October Week Revision Homework
Answers**

Non-Calculator

(1) (a) $10x - 20$

(b) $10x^2 - 26x + 12$

(c) $2x^3 - 13x^2 + 11x + 6$

(2) (a) $x(x - 6)$

(b) $(10 - p)(10 + p)$

(c) $(x - 10)(x - 3)$

(3) $\frac{7x-1}{(x-1)(x+1)}$

(4) $\frac{5}{2x+3}$

(5) $r = \sqrt{\frac{p-q}{2}}$

(6) $x > -5$

(7) 40°

(8) (a) $\frac{131}{20}$ or $6\frac{11}{20}$

(b) $\frac{31}{12}$ or $2\frac{7}{12}$

(c) $\frac{14}{5}$ or $2\frac{4}{5}$

(d) $\frac{4}{3}$ or $1\frac{1}{3}$

(9) (a) $\frac{3}{4}$

(b) $\frac{13}{28}$

(10) (a) 15

(b) $t = -\frac{1}{2}$

(11) (a) y^2

(b) $6a^4$

(c) b

(12) (a) $x = 0, 9$

(b) $x = -9, 9$

(c) $x = -5, \frac{1}{2}$

(13) (a) A(0,-3)

(b) B $(-\frac{3}{2}, 0)$, C $(\frac{1}{2}, 0)$

(c) -4

(14) 120 metres

(15) (3,-1)

(16) (a) Median = 5, SIQR = 2.25

(b) On average, the midday temperature in Endoch is higher since $8 > 5$.

The midday temperatures are also more consistent in Endoch since $1.5 < 2.25$.

(17) (a) $P = \frac{3}{2}d + 2$

(b) £9.50

(18) $y = 2x + 9$

(19) (a) $m = -\frac{3}{2}$

(b) $c = 6$

(20) (a) $\sqrt{3}$

(b) $12\sqrt{6}$

(21) (a) $\frac{\sqrt{3}}{3}$

(b) $3\sqrt{2}$

(c) $\frac{2\sqrt{5}}{3}$

(22) A(135,-3)

(23) $a = 5, b = 4$

(24) B(0,6,6,) and C(3,3,9)

(25) $\overrightarrow{BD} = v - u$

(26) $7\sqrt{2}$

(27) 113.04 cm^3

Calculator

(1) 84.7 cm

(2) 19.5 sq km

(3) 1.8 m

(4) 0.8 litres

(5) 646

(6) $85^2 + 75^2 = 12850$

$110^2 = 12100$

Since $85^2 + 75^2 \neq 110^2$, by the Converse of Pythagoras, the triangle is not right angled therefore Hightown is not directly North of Lowtown.

(7) $PM = 90 \text{ cm}$. Yes the umbrella will fit in the locker from corner P to corner M since $90 > 85$.

(8) $x = -4.2$, 1.2 to 2 significant figures

(9) $p = -0.3$, 1.8 to 1 decimal place

(10) 5.25×10^7

(11) 4.214×10^{26}

(12) 500 ml

(13) 50 cm^2

(14) (a) $2r + 3b = 84$

(b) $3r + 2b = 76$

(c) Rabbit teddy costs £12 and bear teddy costs £20.

(15) (a) Mean = 25, Standard Deviation = 3

(b) On average, the class sizes in S4 are smaller since $22 < 25$.

The class sizes in S3 are more consistent since $3 < 4.4$

(16) Distance = 556.93 m

(17) $P = 50.8^\circ$

(18) 5.36 cm^2

(19) Height = 6.6 m

(20) 70 km

(21) 48254.9 cm^3

(22) 192422.55 cm^3