National 5 Practice Paper C

Answers

Paper 1

Q1. $6 \cdot 24$

Q2. $\frac{17}{28}$

Q3. $-6x - 16$

Q4. a 15 b $t = -\frac{1}{2}$

Q5. $x = 7, x = -1$

Q6. a (i) 27.5 (ii) $Q_1 = 13$ (iii) $Q_3 = 35$

b 11

c On average, both companies have the same waiting time since 27.5 = 27.5

Waiting times for Fast-Cabs are more consistent since 2.5 < 11

Q7. $a = 4,\ b = -30$

Q8. a $m_{AB} = 2$ b $y = 2x - 5$ c $k = 1$

Q9. a $f(x) = (x + 3)^2 - 16$ b (-3, -16)

Q10. a $3n + 2b = 145$ b $5n + 3b = 240$

c One breakfast costs £5

Q11. a 4 b $2\sqrt{3}$ c $\frac{2}{x+1}$

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Paper 2

Q1. 62 600

Q2. 102°

Q3. $x = \sqrt[3]{\frac{y-c}{a}}$

Q4. a 1100 cm^3 b 7.64 cm (2dp)

Q5. 24.74 m

Q6. $x = 1.3\,, -3.3$

Q7. 101.25 ml

Q8. $b^2 - 4ac > 0$, therefore two real and distinct roots

Q9. 3.25 m

Q10. a 78.6° b 92.22 cm^2

Q11. $x = 105.9°\,,\ 285.9°$

Q11 b $\sin^3 x + \sin x \cos^2 x = \sin x\left(\sin^2 x + \cos^2 x\right) = \sin x$ (Since $\sin^2 x + \cos^2 x = 1$)

Q12. a $\frac{x}{75}$ b 60 km/h