National 5 Practice Paper F

Answers

Paper 1

Q1. $4\frac{6}{35}$

Q2. (a) $(2x + y)(2x - y)$ (b) $\frac{2x-y}{3}$

Q3. On average the number of cigarettes smoked went down after the course. However, there was more variability in the number of cigarettes smoked after the course.

Q4. (a) $y - 21 = 2(x - 9)$ or equivalent   (b) 43

Q5. $3\sqrt{2}$

Q6. $x > 3$

Q7. $y = (x - 1)^2 - 4$

Q8. (a) $m = -\frac{1}{2}$ (b) $c = 3$

Q9. 121°
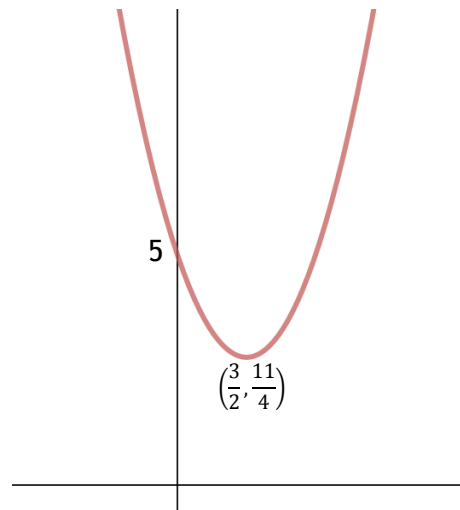
Q10. $a = 30$

Q11. 750 grams

Q12. (a) $b^2 - 4ac < 0$ therefore no real roots

(b) $y = \left(x - \frac{3}{2}\right)^2 + \frac{11}{4}$ (c)

Q13. (a) 150 m² $(\sin 90° = 1)$

(b) 12 metres

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Paper 2

Q1. 3.12×10^8 kilometres

Q2. £25 073.75

Q3. $x = c(b - a)$ (or equivalent)

Q4. $x = \frac{5}{2}, y = \frac{3}{2}$ (or $x = 2.5, y = 1.5$)

Q5. 550 cubic centimetres (to 2 SF)

Q6. 27 centimetres

Q7. (a) 124°   (b) 305 metres (to 3 SF)

Q8. $\frac{2x-7}{(x+1)(x-2)}$

Q9. 2230.5 grams (to 1 decimal place)

Q10. (a) 14 diagonals   (b) proof   (c) 13 sides

Q11. (a) 3.87 metres (1 decimal place)

     (b) 150.6 seconds   (c) 209.4 seconds

Q12. (a) AQ = x + 3

     (b) PQ = $\frac{x+3}{6} \times 8 = \frac{4(x+3)}{3} = \frac{4}{3}x + 4$ as required.