

National 5 Practice Paper A

Answers

Paper 1

1. $1\frac{13}{20}$

2. $(x + 5)(x - 3)$

3. $y = 10x + 5$

4. $y = (x + 4)^2 - 23$, T.P. $(-4, -23)$

5. $R = \sqrt{\frac{P+5}{b}}$

6a. $\begin{pmatrix} -10 \\ 4 \end{pmatrix}$ 6b. $\sqrt{116}$

7. $b = 3$

8. $(3, -1)$

9. $b^2 - 4ac = -19 < 0$ therefore there are no real roots

10. $y + 3 = 3(x - 5)$

11a. $(2, -9)$

11b. $C(0, -5)$

11c. $B(5, 0)$

12. Proof

13a. $\frac{6-2x}{x(x+2)}$ 13b. $8\sqrt{2}$

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Paper 2

1. 581 000

2a. $\bar{x} = 60$, $s = 11.03$ (2dp)

2b. On average the marks of both groups are the same.
However, the marks from Group A are much more consistent.

3. $2x^3 + 11x^2 + 11x - 4$

4. 8.5 km

5. 3329 centimetres

6a. $63\,000\text{ cm}^3$

6b. 8.4 cm (using the answer to part a)

7. 237.76 cm^2

8a. $2a^{\frac{3}{2}} + a^3$

8b. $x = 1.1$ or -2.1

9a. $x = 128.66^\circ$, 308.66°

9b. proof

10a. proof

10b. length = 35 cm, breadth = 15 cm