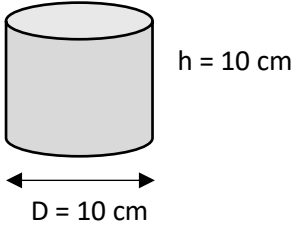


S3 Nat 5 Non-Calculator Revision - Paper A		28
1	(a) Simplify $\sqrt{27} + 2\sqrt{3}$	2
	(b) Evaluate $4^{\frac{3}{2}}$	2
2	Express in the simplest form $4y^8 \times 3y^7 \times 2y^{-3}$	3
3	<p>Calculate the volume of this cylinder</p>  <p>Use <math>\pi = 3.14</math></p>	3
4	<p>Multiply out the brackets and collect like terms</p> $(3x - 5)(2x + 6)$	2
5	<p>Factorise</p> <p>(a) <math>4x^2 - 12x</math>                      (b) <math>x^2 + 8x + 15</math></p>	4
6	Write $x^2 + 10x + 29$ in the form $(x + a)^2 + b$	2
7	$T = \frac{1}{2}(h - 3)$ <p>Change the subject of the formula to <math>h</math></p>	2
8	In a sale Janie bought a pair of boots which were marked down by 25%. If the sale price was £60, what was the original price?	3
9	Calculate $4\frac{2}{5} + 1\frac{3}{8}$	2
10	(a) Find the gradient between the points A(-1,5) and B (1,11)	1
	(b) Find the equation of a line with a gradient of 2 which passes through the point (0,-5)	2

Answers	
1	(a) $\sqrt{27} = \sqrt{9\sqrt{3}} = 3\sqrt{3}$ so $\sqrt{27} + 2\sqrt{3} = 5\sqrt{3}$ (b) $4^{\frac{3}{2}} = (\sqrt{4})^3 = 2^3 = 8$
2	$4y^8 \times 3y^7 \times 2y^{-3} = 24y^{12}$
3	$V = \pi r^2 h$ , $V = \pi 5^2 \times 10$ , $V = 250\pi$ , $V = 785\text{cm}^3$
4	$6x^2 + 18x - 10x - 30 = 6x^2 + 8x - 30$
5	(a) $4x(x - 3)$ (b) $(x + 3)(x + 5)$ 6 $(x + 5)^2 + 4$
7	$\frac{1}{2}(h - 3) = T$ , $h - 3 = 2T$ , $h = 2T + 3$
8	$75\% = \text{£}60$ , $25\% = \text{£}20$ , so $100\% = \text{£}80$
9	$4\frac{2}{5} + 1\frac{3}{8} = 5\left(\frac{2}{5} + \frac{3}{8}\right) = 5\frac{31}{40}$
10	(a) The gradient $m = \frac{6}{2} = 3$ (b) Substituting into $y = 2x + c \rightarrow -5 = 2(0) + c$ , $c = -5$ $y = 2x - 5$

Extra Help		
1	Surds	Page 171 Q1 and 2 Page 177 Q2
2	Indices	Page 174 Q3 and 4
3	Arcs, Sectors and 3D solids	Page 8 Q74a
4	Expanding brackets	Page 14 Q2
5	Factorising quadratics	Page 65 Q3 Page 67 Q1
6	Completing the square	Page 187 Q2 & 3
7	Changing the subject of a formula	Page 99 Q4
8	Percentages	Page 27 Q6, 7 & 8
9	Fractions	Page 30 Q4
10	Straight lines	Page 51 Q8 Page 52 Q2