

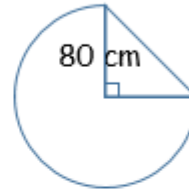
### S5/6 National 5 Maths Homework 8B

1. Factorise these expressions. You may have to take out the common factor first

a)  $2n^2 + n - 1$     b)  $5b^2 + 4b - 1$     c)  $9n^2 - 3n - 2$   
d)  $4a^2 - 8a + 3$     e)  $3t^2 + 51t + 48$     f)  $3z^2 - 30z + 48$



2. The diagram shows a worktop in the shape of a circle with a straight edge. The radius of the circle is 80 cm. Calculate the distance round the worktop.



3. Copy and complete the table to sketch these straight lines.

x	-3	-2	-1	0	1	2	3
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a)  $x - y = 5$     b)  $2x + y = 6$



4.  $P = \frac{a^2 - 3c}{ac}$  Calculate P when  $a = -6$  and  $c = 4$



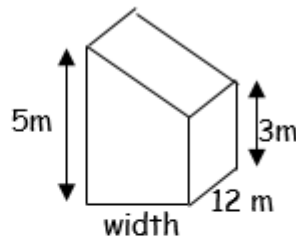
5. Write a) 0.000 000 3 in scientific notation.  
b)  $7.443 \times 10^9$  as an ordinary number.

6. Expand and simplify

a)  $5(2m - n) - 3(m + 2n) - (m - 2n)$     b)  $(3x - 2)(2x^2 + x - 3)$



7. A garden shed is shown opposite. If the volume is  $200m^3$ , find the width of the shed



8.  $f(x) = 3x^3 - 2x^2$ . Find  $f(-2)$ .



9. a) Factorise fully  $2x^2 - 10x$

b) Hence simplify  $\frac{2x^2 - 10x}{2x^2 - 11x + 5}$



10. Solve a)  $3 - (7 - x) > 3(x + 2)$     b)  $4p + 5 < 7p - 3$

