Year 09
Weekly Tutorial - 15
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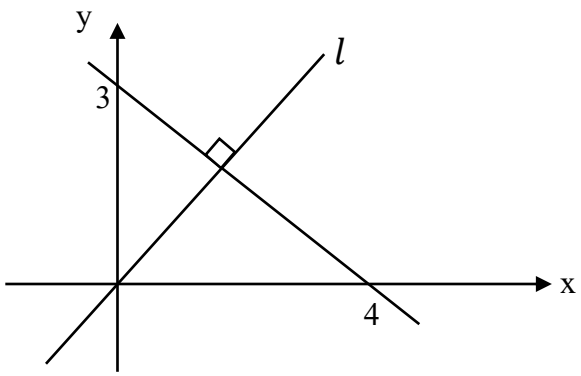
1. Expand and simplify; $(x-3)(x+3)(x+4)$

2. Simplify; $\left(\frac{343}{216}\right)^{-\frac{2}{3}}$

3. Solve; $3+2x=\sqrt{3}(3x-2)$. Give the solution in the form $a\sqrt{3}+b$, where a and b are rational numbers.

4. $T=2\pi\sqrt{\frac{x-l}{x}}$, Make x the subject.

5.



Find the equation of line l.

6.

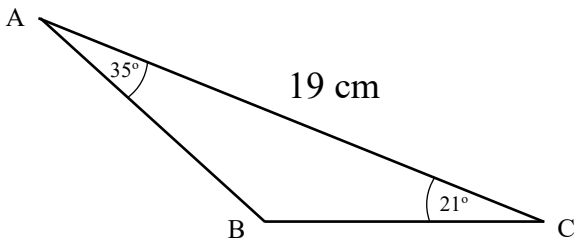
a) Complete the table to draw the graph of quadratic function, $y=6x^2-x-15$

x	-3	-2	-1	0	1	2	3
y	42	11		-15		7	

b) Draw the graph of $y=6x^2-x-15$. (You must use a graph paper)

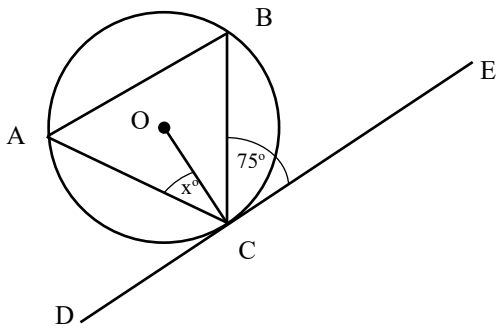
c) Use the graph of y to solve the equation $6x^2-x-15=0$

7.



Find the length BC. Give the answer correct to 1dp.

8.



$ABO\sphericalangle = 28^o$
$BCE\sphericalangle = 75^o$
Find the angle x^o.
Give all reasons to your answer.

9. Given that $f(x) = 2x - 5$ and $g(x) = x^2 - 2$

a) Find $f(2)$ and $g(-3)$

b) Find $gf(x)$

c) Find $fg\left(-\frac{1}{2}\right)$

10. Given that $f(x) = 3x^2 + 11$ and $g(x) = \frac{2x}{x+3}$

a) Find $f(2t - 3)$

b) Find $gf(-1)$

c) Solve $g(x + 5) = -3$