

Year 10

Weekly Tutorial 05

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- Factorize the following expressions.
 - $3x^2 - 27$
 - $2x^2 - x - 15$
- $f(x) = 3x^2 + 5x$ and $g(x) = x - 3$
 - Find $f(x)$ and $g(10)$
 - Find $fg(x)$
 - Find $h^{-1}(x)$, if $h(x) = \frac{2x-3}{5x+7}$
- Solve the quadratic equation $(2x - 3)^2 = x + 10$, using quadratic formula. Give the answer in exact form.
- y is inversely proportional to square of x . when $x = 2.7$, $y = 1.9$. Find x when $y = 2.3$. (Give the answer correct to 2dp)
- Rationalize the denominator.

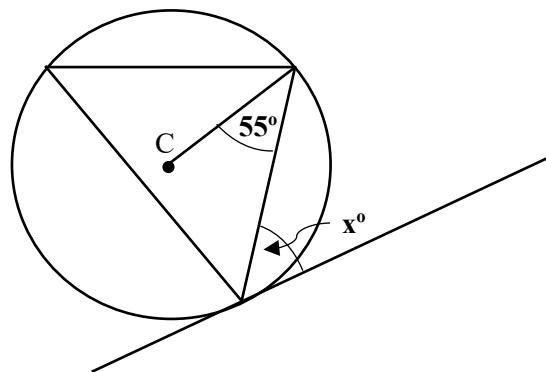
$$\frac{3\sqrt{80} - 6}{\sqrt{45} - 9}$$
- Two containers have paint and those have made with blue and green colours in the ratio 3:5 and 4:3 respectively. If equal amount from each container is mixed, what is the final ratio of blue and green?
- You have two investment options.

Option A - 2.5% simple interest per annum for a deposit up to £ 10 000.
And 3.8% compound interest for any remaining investment.

Option B - 3% simple interest per annum.

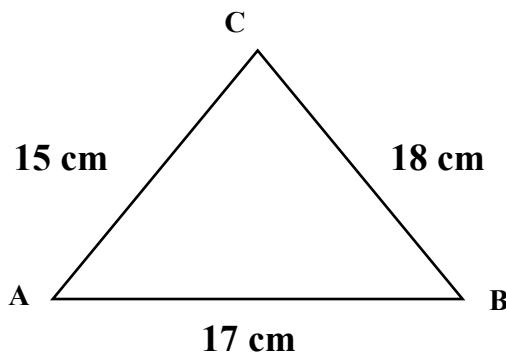
Which plan should you choose to receive the most interest after investing £ 16 000 for 3 years?

8.



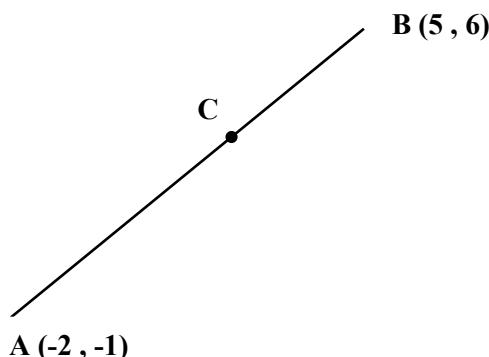
C is the Centre of the circle.
Find the size of angle x^o .

9.



Find the area of the triangle ABC,
correct to 1 dp.

10.



$AC : CB = 3 : 2$ line l is passing through point C and perpendicular to line AB . Find the equation of line l in the form $ax + by + c$ where a, b and c are integers.