

GCSE – Year 10

Weekly Tutorial 04

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1. Max l , the subject of the formula.

$$y = \pi \sqrt{\frac{x-l}{3}}$$

2. Rationalize the denominator.

$$\frac{\sqrt{3} - 2}{(\sqrt{3} + 2)(2\sqrt{3} + 1)}$$

3. Simplify; $\left(a^9 + \frac{61a^9}{64}\right)^{-\frac{1}{3}}$

4. Expand and simplify.

$$(2x - 1)(x - 3)(x - 4)$$

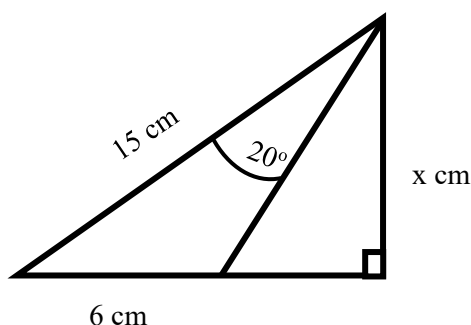
5. Solve by factorisation; $6x^2 + x - 15 = 0$

6. Solve by using quadratic formula and give the solutions in exact form.

$$\frac{7}{x} = 2x - 3$$

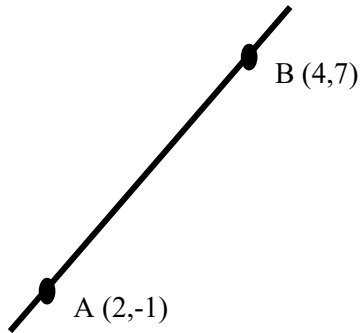
7. Solve by using quadratic formula and give the solutions to 2dp.
 $(x^2 - 1):(x + 2) = 2:5$

- 8.



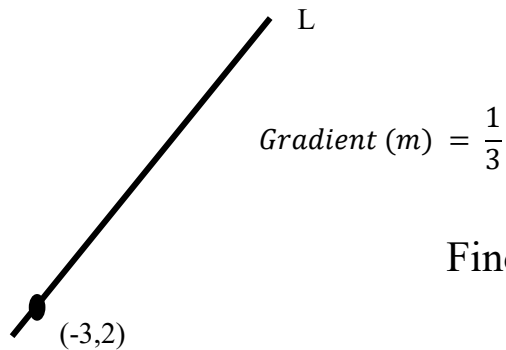
Find x , correct to 1dp.

9.



Find the coordinates at the midpoint of line segment AB.

10.



Find the equation of straight line, l .

11. Solve the following quadratic equations by completing the squares. Give the answers in exact form.
12. Mark bought a house for £420 000. In the first year the house price increased by 2.5%. For next two years house price increased by 3%. Work out the value of the house at the end of 3 years.