

Year 08 Weekly Tutorial - 21

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1. Simplify.

a) $3x^5 \times 4x^{-2}$

b) $(3x^2)^3 \times 2x$

2. Factorize.

a) $x^2 - 64$

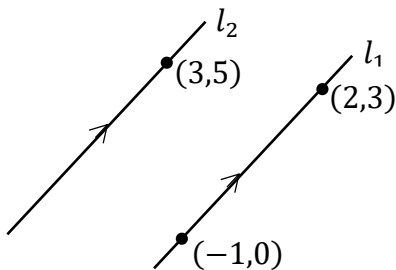
b) $x^2 + 4x - 21$

3. Make x the subject, $y = 2\sqrt{\frac{3x-2}{x}}$

4. Solve by factorization, $6x^2 - 11x - 10 = 0$

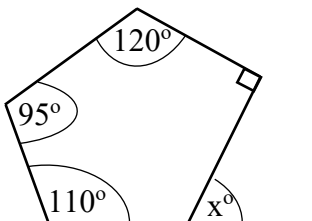
5. Find the gradient and y-intercept of the straight line $3x - 6y + 2 = 0$

6.



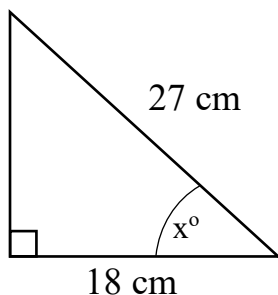
Line l_1 passes through points $(-1,0)$ and $(2,3)$. Line l_2 passes through point $(3,5)$. Line l_1 is parallel to line l_2 . Find the equation of line l_2 .

7.



Find the angle x° .

8.



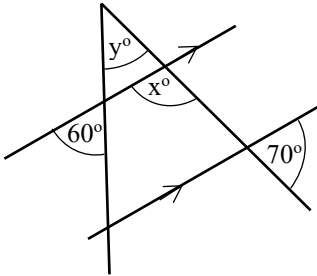
Find the angle x° .

9. The table shows information about the heights of 60 plants.

Height (h) in cm	Frequency
$10 < h \leq 20$	5
$20 < h \leq 30$	17
$30 < h \leq 40$	18
$40 < h \leq 50$	12
$50 < h \leq 60$	8

- a) Write the class interval that contain the median.
 b) Find the average height of a plant.

10.



Find the size of angles x° and y° . Give all reasons to your answers.

11. Mark bought a car. In the first year after he bought the car, its value depreciated at a rate of 28% per annum. In the second year after he bought the car, its value depreciated at a rate of 15% per annum. At the end of the second year the car was worth £ 21420
 What was the value of the car when Mark bought it?

12. Expand and simplify. $(5x - 1)(x + 2)(4 - x)$

13. Work out $3.7 \times 10^9 + 7.3 \times 10^7$
 Give the answer in standard form.

14. Solve; $1 < \frac{2x-1}{3} < x + 2$