BennettMaths
Engaging Learners

Questions

Maths Paper 1 - Higher

Convert $0.2\dot{3}$ into a fraction

Convert $0.41\dot{6}$ into a fraction

Work out $\frac{2}{3} + \frac{6}{8}$

Work out $2\frac{2}{3} - \frac{6}{8}$

Work out $\frac{2}{5} \times \frac{3}{7}$

Work out $2\frac{1}{3} \div \frac{3}{5}$

Simplify $\frac{x^2-100}{x^2+12x+20}$

Simplify $\frac{x^2-100}{2x^2+24x+40}$

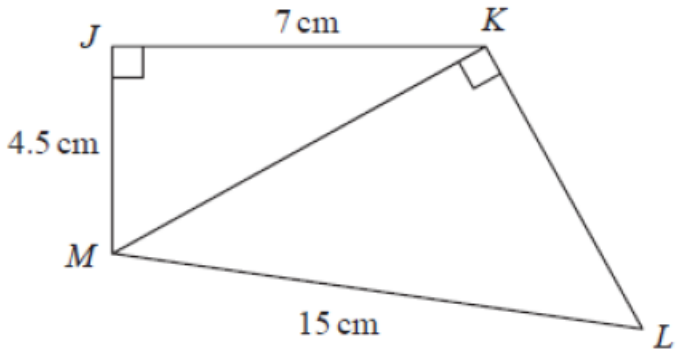
Solve $x^2 + 6x + 8 = 0$

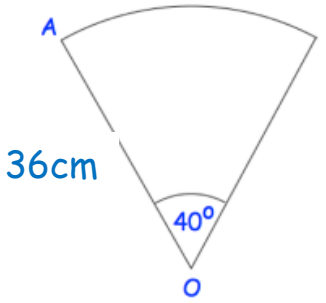
Solve $x^2 + 2x - 15 = 0$

Solve $12n > 8n + 24$

Solve $12n - 2 > 5n + 19$

Find the length of KL





Find the area of the sector. Give your answer in terms of π

Work out $3.2 \times 10^4 - 2.8 \times 10^3$

A line has the equation $y = 2x + 8$
Find the equation of the line perpendicular and passing through (4,3)

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Examples/ Key words

Maths Paper 1 - Higher

Convert 3200 into standard form
$3200 = 3.2 \times 10^3$

Work out $4.2 \times 10^4 + 8 \times 10^3$.
Give your answer in standard form

42,000 + 8000 = 50,000
$50{,}000 = 5 \times 10^4$

To simplify a surd – always find the largest square number that it can be divided by.

E.g. $\sqrt{200} = \sqrt{100} \times \sqrt{2} = 10\sqrt{2}$

Estimate = make the question easier by rounding

Evaluate = work out the answer

Express = Write in the different way

Simplify = Change the appearance

Volume of a cube = base x height x depth or length^3

Surface area of a cuboid = The sum of the area of the 3 pairs of congruent rectangles

The volume of a shape is 20cm^3.
The mass of the shape is 120g.
Find the density.
Density = g:cm^3

120:20

6:1

Density = 6g/cm^3

Angles in regular polygons:
Sum of the interior angles = $(n-2) \times 180$
To find an interior angle = $\frac{total}{n}$ n= number of angles/sides.

Sum of the exterior angles = 360°
To find an exterior angle = $\frac{360}{n}$ n= number of angles/sides

Gradient of a curve = draw tangent of the curve and find the gradient

$$\frac{difference\ in\ y}{difference\ in\ x}$$

	0°	30°	45°	60°	90°
Sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
Cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
Tan	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	Undefined

$x^{\frac{1}{3}} = \sqrt[3]{x}$ $\quad x^{\frac{2}{3}} = (\sqrt[3]{x})^2$

$x^{-\frac{1}{3}} = \frac{1}{\sqrt[3]{x}}$ $\quad x^{-4} = \frac{1}{x^4}$