Calculate the exact trigonometric values

Sin (0)	0
Sin (30)	0.5
Sin (45)	$\sqrt{2}/2$
Sin (60)	$\sqrt{3}/2$
Sin (90)	1

Write $0.2\dot{7}$ as a fraction in its simplest form.

$x = 0.2\dot{7}$

$10x = 2.\dot{7}\dot{2}$

$100x = 27.\dot{2}\dot{7}$

$99x = 27$

$x = \frac{27}{99} = \frac{3}{11}$

Solutions by Kenneth Stafford MATHS TUTOR ken@kennethstafford.co.uk

Find the interior and exterior angle of a regular pentagon.

$(n-2) \times 180$

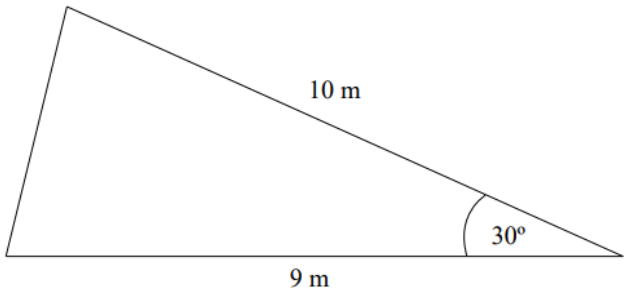
$(5-2) \times 180 = 540°$

$\frac{540}{5} = 108$

Interior ..... 108°

Exterior ..... 72°

Work out the area of this triangle



$\frac{1}{2} \times 9 \times 10 \times \sin(30)$

$= \frac{1}{2} \times 90 \times \frac{1}{2} = 22.5$ ..... m^2

Simplify $\frac{(3+\sqrt{6})}{\sqrt{3}}$ $\times\sqrt{3}$ $\times\sqrt{3}$

$\frac{3\sqrt{3} + \sqrt{18}}{3} = \frac{3\sqrt{3} + 3\sqrt{2}}{3}$

$\sqrt{18} = \sqrt{9} \times \sqrt{2} = 3\sqrt{2}$

$= \sqrt{3} + \sqrt{2}$

Liquid A has a density of 2 g/cm^3

~~300~~ 100 cm^3 of Liquid A is mixed with Liquid B to make Liquid C.

Liquid C has a mass of 300 g and a density of 1.5 g/cm^3

Find the density of Liquid B

$2 \times 100 = 200$

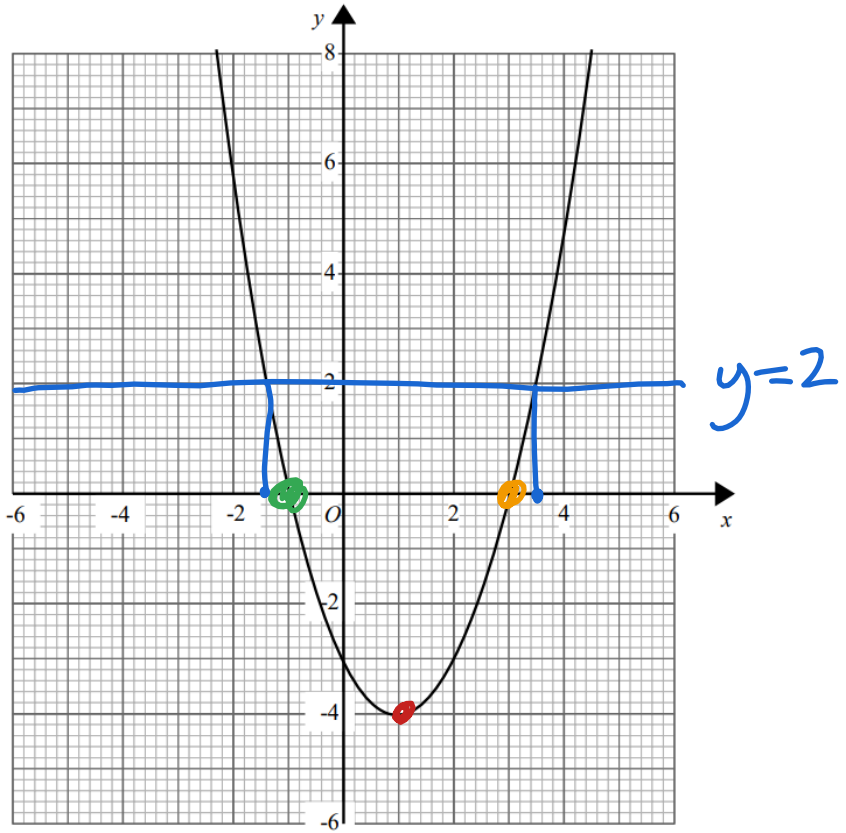
	Density	Mass	Volume
Liquid A	2	200	100
Liquid B	1	100	100
Liquid C	1.5	300	200



$300 \div 1.5 = 200$

$100 \div 100 = 1$

Here is the graph of $y = x^2 - 2x - 3$



Write down the turning point of the graph $y = x^2 - 2x - 3$

(1 , -4)

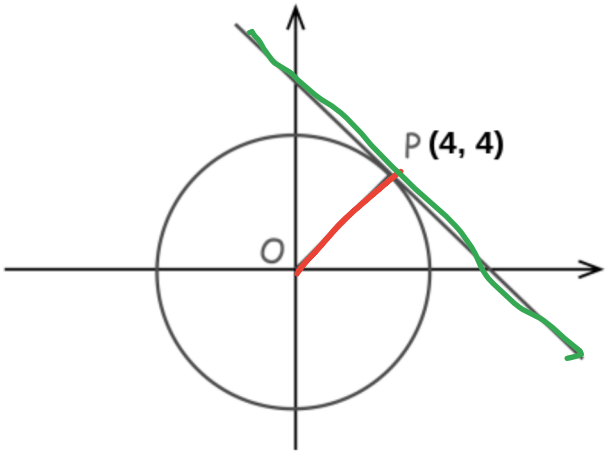
Use the graph to find the roots of the equation $x^2 - 2x - 3 = 0$

-1 and 3

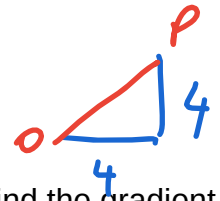
Use the graph to find the roots of the equation $x^2 - 2x - 3 = 2$

-1.4 and 3.5

The diagram shows the circle $x^2 + y^2 = 16$ with a tangent at the point (4, 4)



Find the gradient of the line OP



$\frac{4}{4} = 1$

Find the gradient of the tangent

-1

Find the equation of the tangent

$y = -x + c$

$4 = -4 + c$

$c = 8$

$y = -1x + 8$