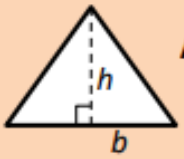
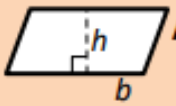
Exam Formulae

Formulae that you need to know…

Everyone needs to know.



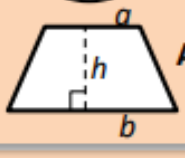
Area of triangle = ½ bh



Area of parallelogram = bh

Circumference of circle = $\pi d = 2\pi r$

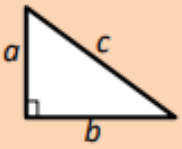
Area of circle = πr^2



Area of trapezium = ½ $(a + b)h$

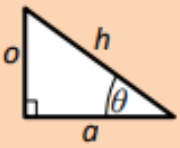
Volume of cuboids = length × width × height

Volume of cylinders or prisms = length × area of cross section



For right-angled triangles, label the hypotenuse c & the other sides a and b

Pythagoras' theorem $a^2 + b^2 = c^2$



For right-angled triangles, label the hypotenuse h, the side adjacent to the angle a & the side opposite the angle o

$\sin\theta = \frac{o}{h}$ $\cos\theta = \frac{a}{h}$ $\tan\theta = \frac{o}{a}$

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

Compound interest

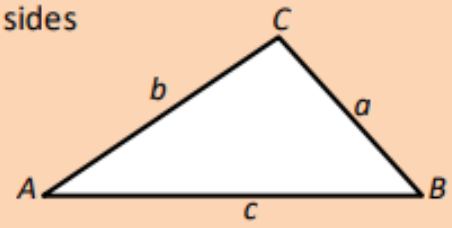
$$\text{Amount} = P\left(1 + \frac{r}{100}\right)^n$$

where P is principal amount
r is interest rate
n is times interest applied

Probability P(A or B) = P(A) + P(B) – P(A and B)
where P(A) is the probability of outcome A
P(B) is the probability of outcome B

Higher only.

In any triangle ABC where a, b and c are the lengths of the sides



Area of triangle = ½ $ab\sin C$

Sine rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine rule $a^2 = b^2 + c^2 - 2bc\cos A$

The quadratic formula

The solutions of $ax^2 + bx + c = 0$ where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Probability

P(A and B) = P(A given B) P(B)

where P(A) is the probability of outcome A
P(B) is the probability of outcome B