

Simplify

$$\frac{2x^2 + 10x - 28}{2x^2 + 19x + 35}$$

$x = 3.2$  when rounded to 1 decimal place  
 $y = 1.42$  when rounded to 2 decimal place

- (a) Work out the LB of  $xy$   
 (b) Work out the UB of  $\frac{x}{y}$

Invest £2000 at 4% compound interest per annum for 3 years.

Work out the total of the investment after 3 years.

The probability of winning a game of snooker is 0.6.  
 The probability of winning a game of pool is 0.8.  
 Work out the probability of winning a game of pool and a game of snooker.

Simplify

$$(3x^4y^{-2})^5$$

Work out the gradient of the line  
 $12y + 3x = 42$

Convert 250 cm<sup>2</sup> into mm<sup>2</sup>

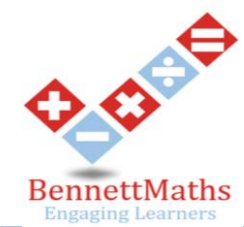
$$f(x) = 8x^2 \quad g(x) = x + 2$$

$$f(x) = 8x^2 \quad g(x) = 3x + 2$$

Convert 250 mm<sup>2</sup> into cm<sup>2</sup>

- (a) Work out  $gf(3)$   
 (b) Work out  $fg(x)$

- (a) Work out  $f^{-1}(x)$   
 (b) Work out  $g^{-1}(x)$



## Examples/ Key words

## Maths Paper 3 - 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

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

Volume of a cube = base x height x depth  
 or length<sup>3</sup>

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

Gradient of a curve = draw tangent of  
 the curve and find the gradient  
 $\frac{\text{difference in } y}{\text{difference in } x}$

The 5 values required for a boxplot are:

- Lowest value
- Lower quartile
- Median
- Upper quartile
- Highest Value

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

$$\begin{aligned} &120:20 \\ &6:1 \\ \text{Density} &= 6\text{g}/\text{cm}^3 \end{aligned}$$

When drawing a cumulative frequency  
 graph, use the end point of the range

When drawing a frequency polygon, use  
 the midpoint

Estimate = make the question easier by  
 rounding

Evaluate = work out the answer

Express = Write in the different way

Simplify = Change the appearance

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

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

Circle Theorem Tips:

- Radius and tangent =  $90^\circ$
- Radius and chord = alternate  
 segment theorem
- 2 radii = an isosceles triangle