

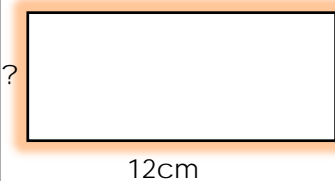
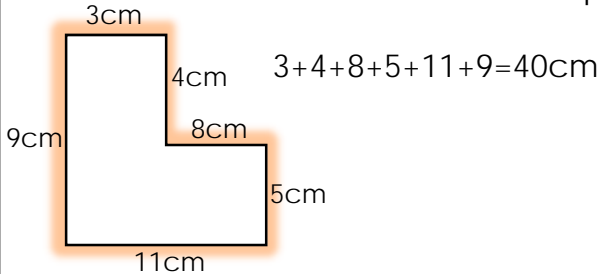
Maths Knowledge Organiser

Year 7 Area and Perimeter



Perimeter

Is the total distance around a 2D shapes



Perimeter = 30cm
Missing length
 $= 30 - 12 - 12 = 6$
 $6 \div 2 = 3\text{cm}$

Factors

Factors are numbers that divide exactly into another number.

Factors of 12

$12 = 1 \times 12$
 $12 = 2 \times 6$
 $12 = 3 \times 4$
1,2,3,4,6,12

Factors of 16

$16 = 1 \times 16$
 $16 = 2 \times 8$
 $16 = 4^2$
1,2,4,8,16

Highest common factors (HCF)

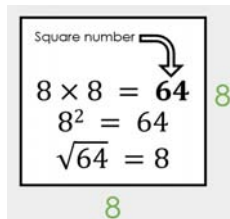
Is the largest same factor of more than one number. The HCF of 25 and 30,

25	30
1×25	1×30
5×5	2×15
	3×10
	5×6

Biggest factor for both numbers is 5
HCF = 5

Square numbers

Is the result of multiplying a number by itself



$1^2 = 1$	$\sqrt{1} = 1$
$2^2 = 4$	$\sqrt{4} = 2$
$3^2 = 9$	$\sqrt{9} = 3$
$4^2 = 16$	$\sqrt{16} = 4$
$5^2 = 25$	$\sqrt{25} = 5$

Lowest common multiple (LCM)

The smallest number in more than one numbers times table. The LCM of 4 and 6,
 $4 \rightarrow 4, 8, 12, 16, 20, 24, 28, \dots$

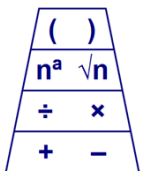
$6 \rightarrow 6, 12, 18, 24, 30, 36, \dots$

12 is the smallest number in both list **LCM = 12**

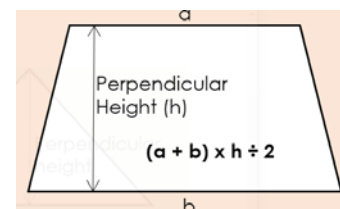
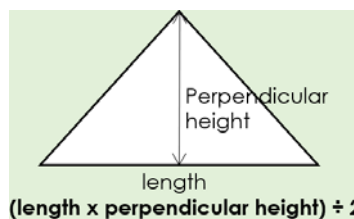
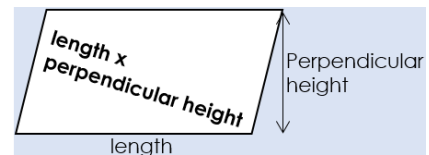
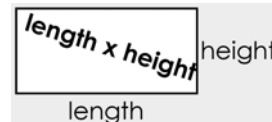
BIDMAS

We have to calculate sums in the correct order, following BIDMAS

BIDMAS

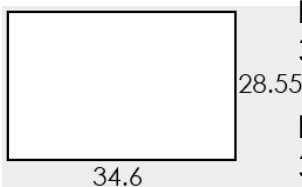


$(15 - 3 \times 2^2) + 7$
 $(15 - 3 \times 4) + 7$
 $(15 - 12) + 7$
 $(3) + 7$
 10



Estimating

Round numbers to one significant figure and calculate



Estimated area
 $30 \times 30 = 900\text{cm}^2$

Estimated perimeter
 $30 + 30 + 30 + 30 = 120\text{cm}$