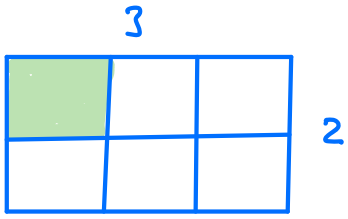
Area and Perimeter

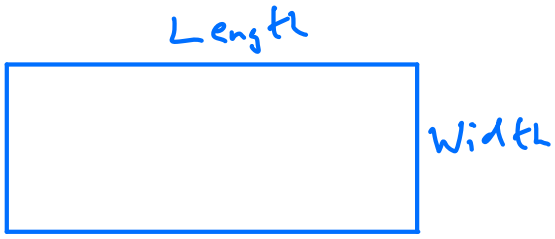
Rectangle



Area $= 6$ units^2

1 unit^2

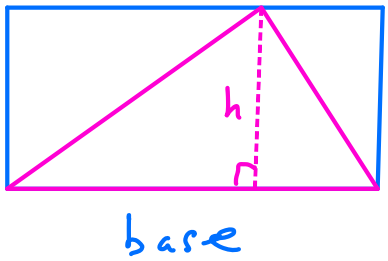
or 1 square unit



$$\text{Area} = \text{Length} \times \text{Width}$$
$$= L \times W$$

$$\text{Perimeter} = L + W + L + W$$
$$= 2L + 2W$$
$$= 2(L + W)$$

Triangle

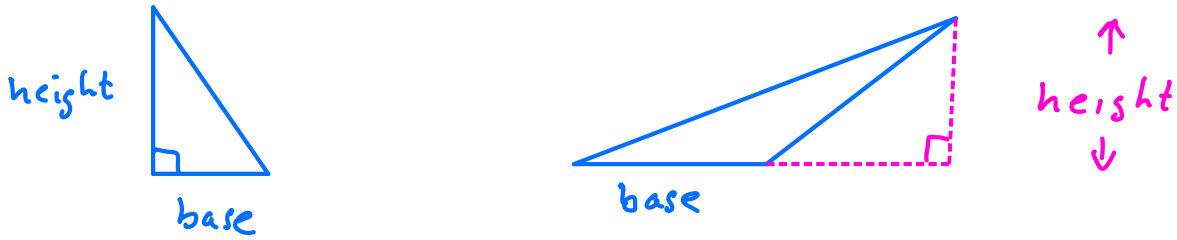


height h

The area of the triangle is half the area of the rectangle it is enclosed in

$$\text{Area of triangle} = \frac{\text{base} \times \text{height}}{2}$$

or $\frac{1}{2}$ base $\times$ height



Notice that depending on which side is chosen as the base the perpendicular height may need to be measured from outside the triangle

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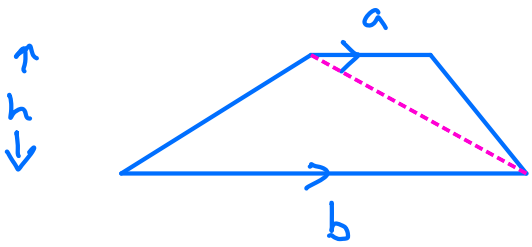
Trapezium



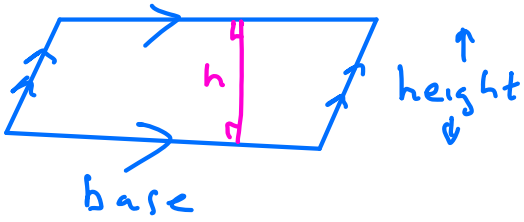
A quadrilateral with one pair of parallel sides

$$\text{Area} = \frac{1}{2}(a+b)h$$

Basically the trapezium is the sum of two triangles $\frac{1}{2}ah + \frac{1}{2}bh$

$= \frac{1}{2}(a+b)h$

Parallelogram

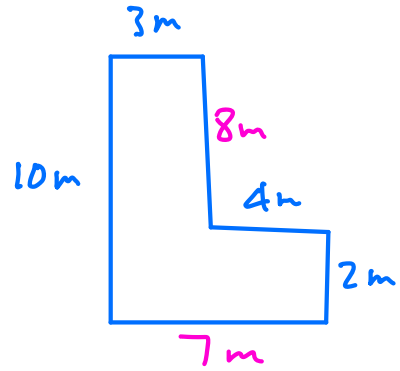


Quadrilateral with two pairs of parallel sides and opposite sides equal

$$\text{Area} = \text{base} \times \text{height}$$

Composite Shapes – Area and Perimeter

1)

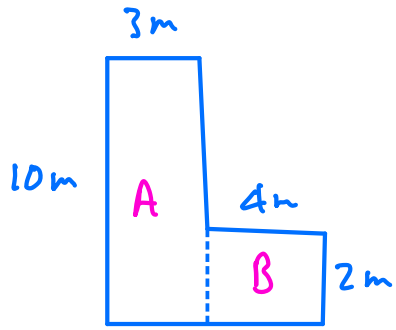


First find unknown lengths

Perimeter = 3 + 8 + 4 + 2 + 7 + 10

= 34m

1a)

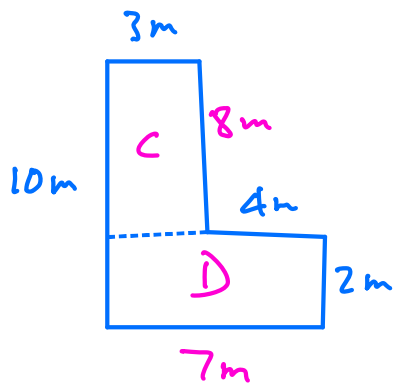


A = 10 × 3 = 30

B = 4 × 2 = 8

Total Area 38 m^2

1b)

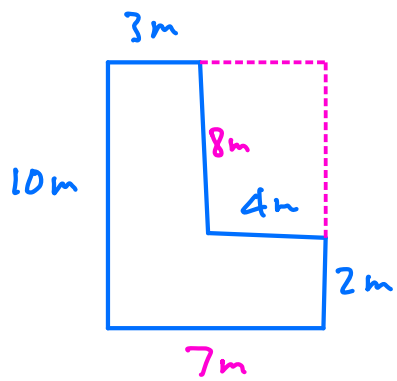


C = 8 × 3 = 24

D = 7 × 2 = 14

Total Area = 38 m^2

1c)



Area of L shape

= Area of large rectangle

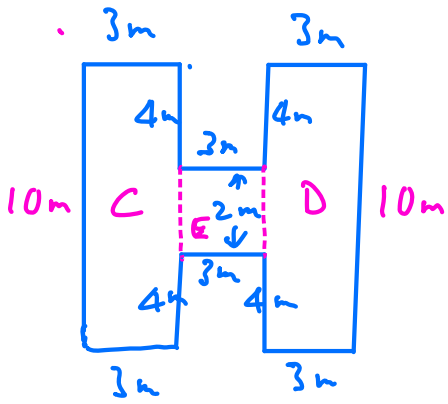
– Area of small rectangle

Large Rect 10 × 7 = 70

Small Rect 8 × 4 = 32 –

L shape 38 m^2

2)



Perimeter

$3+4+3+4+3+10+3+4+3+4+3+10$

$= 54m$

Area

$C = 10 \times 3 = 30$

$D = 10 \times 3 = 30$

$E = 3 \times 2 = 6$

Total Area $66 m^2$