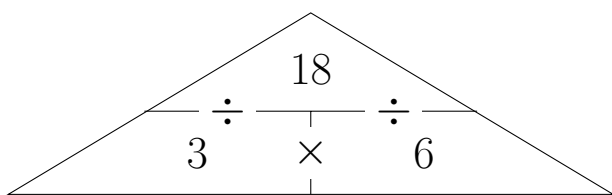1. Complete these 4 similar but different times table facts:

   You may use this proportional triangle
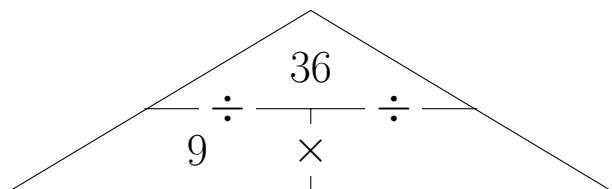

   $$... \times ... = 18$$

   $$... \times ... = 18$$

   $$18 \div ... = ...$$

   $$18 \div ... = ...$$

2. (i) Complete this proportional triangle

   You may use this part of the times table grid:

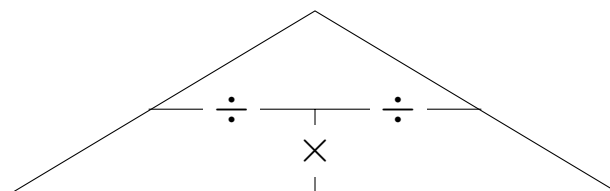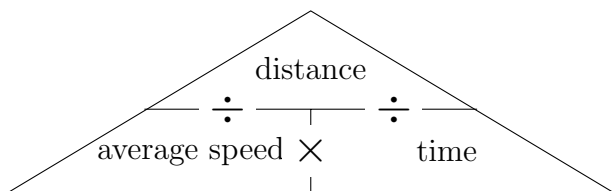 | × | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
   |---|---|---|---|---|---|---|---|---|----|
   | 9 | ...8 | ...7 | ...6 | ...5 | ...4 | ...3 | ...2 | ...1 | ...0 |

   (ii) Complete these other similar but different times table facts:

   $$36 \div ... = 9 \qquad 9 \times ... = 36 \qquad ... \times 9 = 36$$

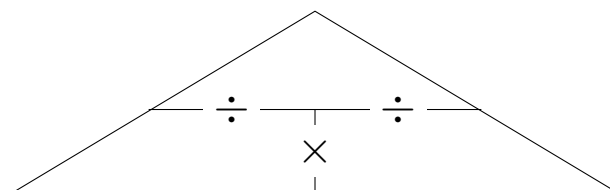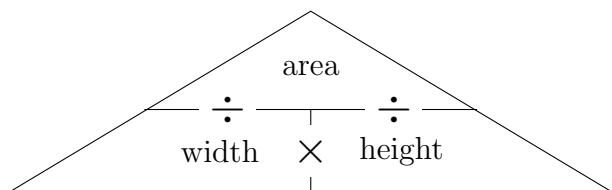3. Here are two proportional formula triangles

   Calculate the distance travelled by a cyclist when

   average speed = 5 m/s

   time = 3000 seconds   {F.Y.I. 50 minutes = 3000 seconds}

4. Here are two proportional formula triangles

   Calculate the height of a cinema screen when

   area = 12 m^2

   width = 4 m

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5. Here are two proportional formula triangles
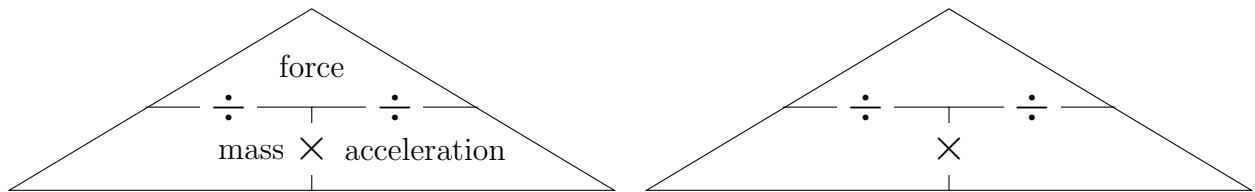
   Calculate the mass of a person when

   $$\text{acceleration} = 10 \text{ m/s}^2$$

   $$\text{force due to gravity} = 700 \text{ N}$$

6. (a) Make m the subject of Newton's second law formula $F = ma$

   (b) Make **change in velocity** the subject of the formula
   $$\text{acceleration} = \frac{\text{change in velocity}}{\text{time}}$$

7. (a) Ohm's Law $V = IR$ shows the relationship between
   - V the potential difference in volts, V,
   - I the current in amps, A and
   - R the resistance in ohms, Ω

   Calculate the resistance, in Ω, when the current is 2 A and the potential difference is 12 V

   (b) A car takes 2 hours to travel 22 miles between junctions on a motorway.

   Work out the average speed of the car, in mph.

   (c) An oak tree has a volume of 5 m^3 and a density of 700 kg/m^3

   Work out the mass of this oak tree, in kg.