Speed, distance, time
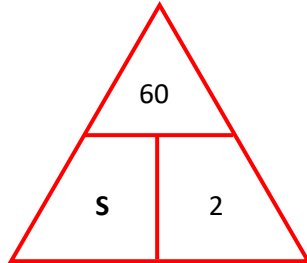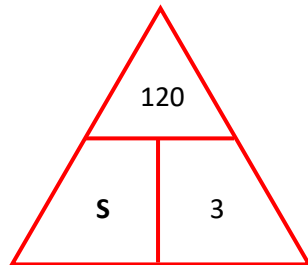
1. A car travels 60 miles in 2 hours.
   Find the average speed of the car.
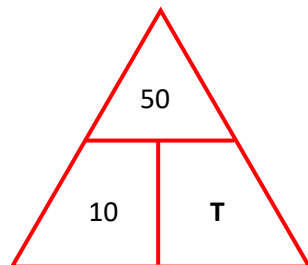
   $Speed: 60 \div 2 = 30mph$

   (2 marks)

2. A truck drives 120 km in 3 hours.
   Find the average speed of the car.

   $Speed: 120 \div 3 = 40km/h$

   (2 marks)

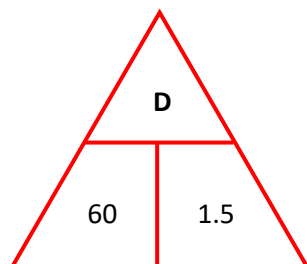3. A bike travels 50 miles at a speed of 10mph.
   How long did the journey take?

   $Time: 50 \div 10 = 5\ hours$

   (2 marks)

4. A motorbike travels at $60km/h$ for 1.5 hours.
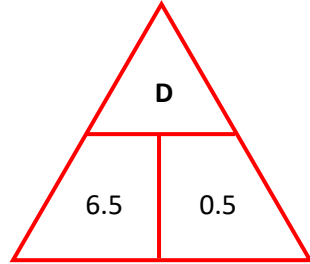   What is the total distance the motorbike travels?

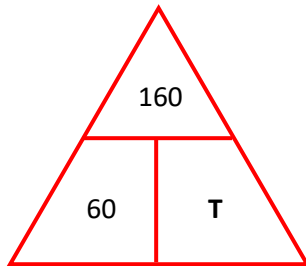 $Distance: 60 \times 1.5 = 90\ km$

   (2 marks)

Speed, distance, time

5.   Spencer runs for 30 minutes at $6.5 mph$.
      How far does spencer run?

$$30\ MINUTES = 0.5\ HOURS$$
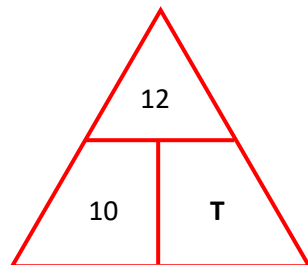$$Distance: 6.5 \times 0.5 = 3.25\ miles$$

(2 marks)

6.   Aria is travelling for 160 miles at $60 mph$.
      How long does it take to complete her journey?

$$Time: 160 \div 60 = 2.666\ldots$$
$$2\ hours\ and\ 40\ minutes$$

(2 marks)

7.   Hannah leaves her house at $7:30 am$ to cycle to work.
      Her work is 12 miles away from her home.
      She cycles at $10 mph$.
      What time will Hannah get to work?
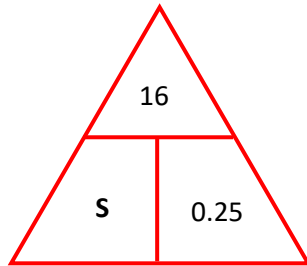
$$Time: 12 \div 10 = 1.2\ hours$$
$$1\ hour\ 12\ minutes$$
$$8:42 am$$

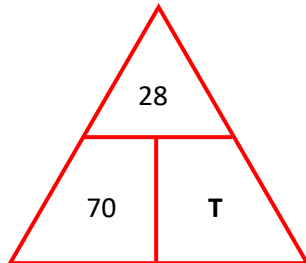(3 marks)

Speed, distance, time

8. The speed limit on a road is $60mph$.
    Mia is travelling 16 miles for 15 minutes.
    Is Mia breaking the speed limit?
    You must show all of your workings.

    15 minutes = 0.25 hour
    Speed: 16 ÷ 0.25 = 64mph
    Yes she is
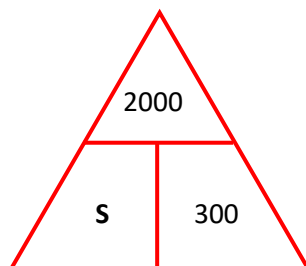
    (3 marks)

9. Jacob travels $28km$ at a speed of $70km/h$.
    How long does it take Jacob?
    Give your answer in minutes.

    Time: 28 ÷ 70 = 0.4
    24 minutes

    (3 marks)

10. Luke runs $2km$ in 5 minutes.
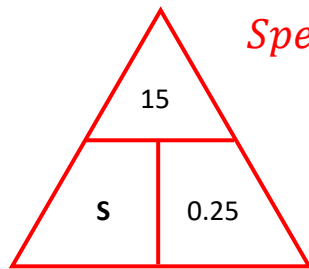   What is Luke's speed in metres per second?

    2km = 2000 m
    5 minutes = 300 seconds
    Speed: 2000 ÷ 300 = 6.67m/s

    (3 marks)

Speed, distance, time

11. Jackson travelled from A to B.
A and B are 15 miles apart.
It takes Jackson 15 minutes to travel from A to B.
Sophie also travels from A to B.
She travels 62mph.
Who travels the quickest?
You must show all of your workings.

Speed of Jackson: $15 \div 0.25 = 60mph$

Sophie travels the quickest

$$15$$
$$S \quad | \quad 0.25$$

(3 marks)

12. Car A is travelling $51mph$.
Car B is travelling $80km/h$.
Which car is travelling the fastest?
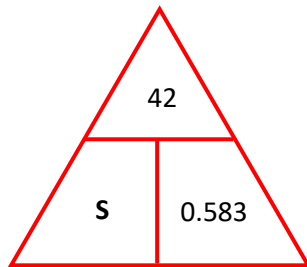Show all of your workings.

$1\ mile = 1.6\ km$
$80km/h = 50mph$
Car A is travelling the fastest

(3 marks)

Speed, distance, time

FUNCTIONAL MATHS

13.   The speed limit on a certain road is $70mph$.
      A lorry is travelling 42 miles in 35 minutes.
      Is the lorry breaking the speed limit?
      Show all your workings.

$35\ minutes = 0.58333 \ldots hour$
$Speed: 42 \div 0.58333 = 72mph$
Yes it is

(3 marks)

14.   Convert $8km/h$ into m/s
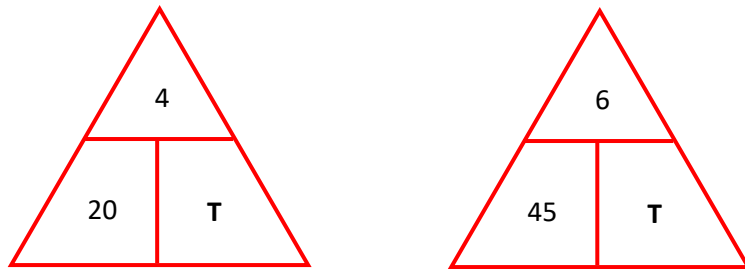
$8000m/h$
$8000m/3600s$
$2.\dot{2}m/s$

(2 marks)

15.   Convert $108km/h$ into m/s

$108000m/h$
$108000m/3600s$
$30m/s$

(2 marks)

Speed, distance, time

16. Simon is travelling from home to visit his friend.
He completes the journey in 2 stages.
In stage 1, he travels $4\ miles$ at $20mph$.
In stage 2, he travels $6\ miles$ at $45mph$.
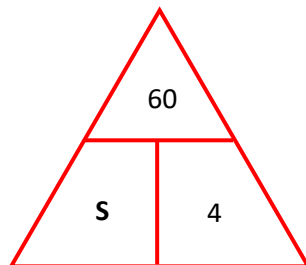Simon leaves his house at 9:30am, what time does he get to his friend's house?

$$Stage\ 1\ time: 4 \div 20 = 0.2\ (12\ minutes)$$
$$Stage\ 2\ time: 6 \div 45 = 0.1\dot{3}\ (8\ minutes)$$
$$9:50am$$

(4 marks)

17. A cat runs 63 metres in 3.98 seconds
Estimate the cats average speed?

$$63 \approx 60\ (1sf)$$
$$3.98 \approx 4\ (1sf)$$
$$Speed: 60 \div 4 = 15m/s$$

(3 marks)