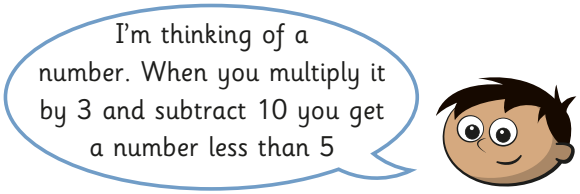
Form and solve inequalities

1

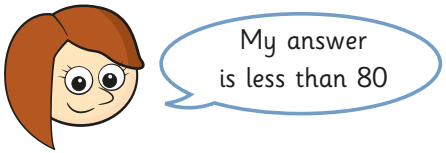


Form an inequality and solve it to describe the range of possible numbers.

2 Rosie starts with a number.

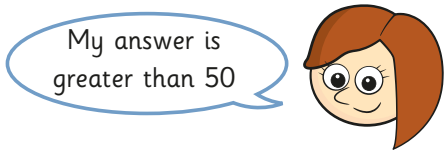
She multiplies the number by 5 and then subtracts 3

a)



Form an inequality and solve it to describe the range of possible numbers.

b)



Form an inequality and solve it to describe the range of possible numbers.

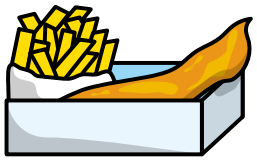
c) Write all the possible integers Rosie could have started with.

3 A portion of fish costs £f.

A bag of chips costs £2

Tom buys 5 portions of fish and 2 bags of chips.

He pays with a £20 note and gets some change.



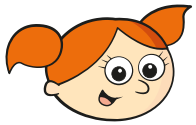
a) Tom forms the inequality $5f + 4 < 20$

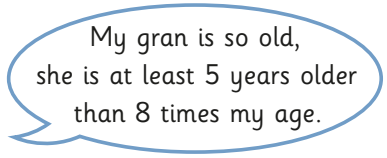
Explain each part of the inequality.

b) Solve Tom's inequality to describe the range of possible values of f.

c) What is the maximum possible cost of a portion of fish?

4





Alex's gran is 77 years old.

a) Form and solve an inequality from this information.

b) What is the oldest that Alex could be?

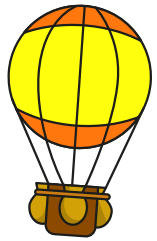
5 Aisha is going to a funfair.
She has £10 to spend.

Form and solve an inequality to find the possible number of rides that Aisha can go on.

6 A hot air balloon can lift 2 tonnes.

The basket weighs 800 kg.

It has 15 sandbags to keep the balloon on the ground.



a) Form and solve an inequality to show the possible mass of each sandbag.

b) The sandbags are removed so that passengers can take a ride.

What is the maximum number of adults (each weighing 75 kg) that the balloon can carry?

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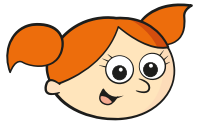
a) Tom forms the inequality $5f + 4 < 20$

Explain each part of the inequality.

b) Solve Tom's inequality to describe the range of possible values of f.

c) What is the maximum possible cost of a portion of fish?

4



My gran is so old, she is at least 5 years older than 8 times my age.

Alex's gran is 77 years old.

a) Form and solve an inequality from this information.

b) What is the oldest that Alex could be?

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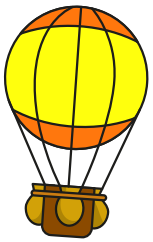

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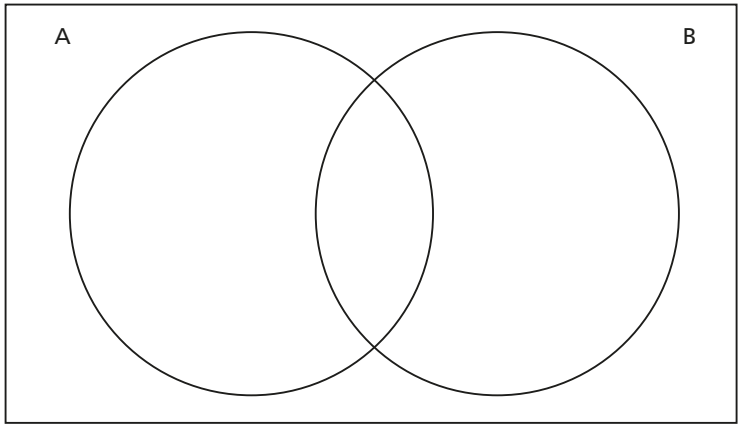
7 Solve the inequalities and fill in the Venn diagram.

$\xi = \{x \text{ integer}; -5 \leq x \leq 5\}$

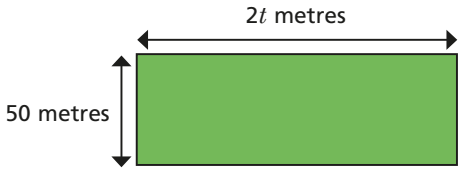
$\mathbf{A} = \{4(x + 2) < 12\}$

$\mathbf{B} = \{-3 \leq 2x + 1\}$

ξ



8 A rectangular field has these measurements.



Kim walks around the edge of the field. She walks less than 1 km.

a) Form and solve an inequality to find the possible values of t.

b) What is the smallest value that t can be?

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