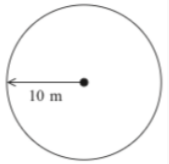
Securing grade 5 – Number – Rounding and estimation

Neil has £810.
He wants to buy 18 tickets for a football match.
Each ticket costs £38.60.

Show, by estimation, whether or not Neil has enough money to buy the tickets.



Balena has a garden in the shape of a circle of radius 10 m.
He is going to cover the garden with grass seed to make a lawn.

Grass seed is sold in boxes.
Each box of grass seed will cover 46 m^2 of garden.

Balena wants to cover all the garden with grass seed.

Work out an estimate for the number of boxes of grass seed Balena needs.

Work out an estimate for the value of

$$\frac{5.79 \times 312}{0.523}$$

Jess rounds a number, x, to one decimal place.
The result is 9.8.

Write down the error interval for x.

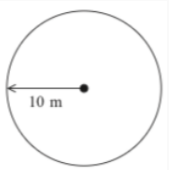
Securing grade 5 – Number – Rounding and estimation

Neil has £810.
He wants to buy 18 tickets for a football match.
Each ticket costs £38.60.

Show, by estimation, whether or not Neil has enough money to buy the tickets.

$20 \times 40 = £800$

Yes he has enough money



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Grass seed is sold in boxes.
Each box of grass seed will cover 46 m^2 of garden.

Balena wants to cover all the garden with grass seed.

Work out an estimate for the number of boxes of grass seed Balena needs.

$$\frac{3 \times 10^2}{50}$$

6 boxes are needed

Work out an estimate for the value of

$$\frac{5.79 \times 312}{0.523}$$

$$\frac{5 \times 300}{0.5}$$

$$= 3000$$

Jess rounds a number, x, to one decimal place.
The result is 9.8.

Write down the error interval for x.

$9.75 \leq x < 9.85$

Securing grade 5 – Number – Types of number

Find the highest common factor (HCF) of 168 and 180.

Find the Lowest Common Multiple (LCM) of 54 and 90.

Martin is organising a summer fair.
He needs bread buns and burgers for the barbecue.

Bread buns are sold in packs.
Each pack contains 40 bread buns.
Burgers are sold in packs.
Each pack contains 24 burgers.
Martin buys exactly the same number of bread buns as burgers.

What is the least number of each pack that Martin buys?

Securing grade 5 – Number – Types of number

Ali is planning a party.

He wants to buy some cakes and some sausage rolls.

The cakes are sold in boxes.
There are 12 cakes in each box.
Each box of cakes costs £2.50.

The sausage rolls are sold in packs.
There are 8 sausage rolls in each pack.
Each pack of sausage rolls costs £1.20.

Ali wants to buy more than 60 cakes and more than 60 sausage rolls.
He wants to buy exactly the same number of cakes as sausage rolls.

What is the least amount of money Ali will have to pay?

Express 108 as the product of powers of its prime factors.

Andrew is thinking of a number.

- It is between 1 and 150.
- It is one more than a square number.
- It is three less than a cube number.
- It is not a prime number.

What is Andrew's number?

Securing grade 5 – Number – Types of number

Find the highest common factor (HCF) of 168 and 180.

$= 12$

Find the Lowest Common Multiple (LCM) of 54 and 90.

$= 270$

Martin is organising a summer fair.
He needs bread buns and burgers for the barbecue.

Bread buns are sold in packs.
Each pack contains 40 bread buns.
Burgers are sold in packs.
Each pack contains 24 burgers.
Martin buys exactly the same number of bread buns as burgers.

What is the least number of each pack that Martin buys?

3 packets of bread buns
5 packets of burgers

Securing grade 5 – Number – Types of number

Ali is planning a party.

He wants to buy some cakes and some sausage rolls.

The cakes are sold in boxes.
There are 12 cakes in each box.
Each box of cakes costs £2.50.

The sausage rolls are sold in packs.
There are 8 sausage rolls in each pack.
Each pack of sausage rolls costs £1.20.

Ali wants to buy more than 60 cakes and more than 60 sausage rolls.
He wants to buy exactly the same number of cakes as sausage rolls.

What is the least amount of money Ali will have to pay?

$= £25.80$

Express 108 as the product of powers of its prime factors.

$= 2^3 \times 3^2$

Andrew is thinking of a number.

- It is between 1 and 150.
- It is one more than a square number.
- It is three less than a cube number.
- It is not a prime number.

What is Andrew's number?

$= 122$

Securing grade 5 – Number – Fractions

$2\frac{2}{5} + 5\frac{1}{3}$

$4\frac{3}{4} - 2\frac{5}{6}$

Which fraction is closer to 1?

$\frac{3}{8}$ or $\frac{9}{5}$

$3\frac{1}{5} \times 2\frac{2}{7}$

$6\frac{2}{7} \div 3\frac{2}{3}$

Order from smallest to largest:

$\frac{2}{5}$ 0.45 $\frac{7}{25}$ 43%

Securing grade 5 – Number – Fractions

A water tank is $\frac{2}{3}$ full.

40 litres of water are taken from the tank.
The tank is now $\frac{1}{2}$ full.

How many litres does the tank hold when full?

Katy organised a wedding.
Guests had to choose their meal from pasta, chicken or beef.

$\frac{1}{3}$ of the guests chose pasta.

$\frac{5}{12}$ of the guests chose chicken.

24 of the guests chose beef.

How many guests were at the wedding?

Some students went to the cinema.
Each student watched film A or film B or film C.
$\frac{3}{8}$ of the students watched film A.
40% of the students watched film B.

What fraction of the students watched film C?

Securing grade 5 – Number – Fractions

$2\frac{2}{5} + 5\frac{1}{3}$

$= 7\frac{11}{15}$

$4\frac{3}{4} - 2\frac{5}{6}$

$= 1\frac{11}{12}$

Which fraction is closer to 1?

$\frac{3}{8}$ or $\frac{9}{5}$

$\frac{15}{40}$ $\frac{40}{40}$ $\frac{72}{40}$

25 32

$3\frac{1}{5} \times 2\frac{2}{7}$

$= 7\frac{11}{35}$

$6\frac{2}{7} \div 3\frac{2}{3}$

$= 1\frac{5}{7}$

Order from smallest to largest:

$\frac{2}{5}$ 0.45 $\frac{7}{25}$ 43%

$\frac{7}{25}$ $\frac{2}{5}$ 0.45 43%

Securing grade 5 – Number – Fractions

A water tank is $\frac{2}{3}$ full.
40 litres of water are taken from the tank.
The tank is now $\frac{1}{2}$ full.

How many litres does the tank hold when full?

240 litres

Katy organised a wedding.
Guests had to choose their meal from pasta, chicken or beef.

$\frac{1}{3}$ of the guests chose pasta.

$\frac{5}{12}$ of the guests chose chicken.

24 of the guests chose beef.

How many guests were at the wedding?

96 people

Some students went to the cinema.
Each student watched film A or film B or film C.
$\frac{3}{8}$ of the students watched film A.
40% of the students watched film B.

What fraction of the students watched film C?

$\frac{9}{40}$ *oe*

Securing grade 5 – Number – Standard index form

Beth is given the following question.

> Work out
>
> $4.1 \times 10^5 \times 3 \times 10^2$.
>
> Give your answer in standard form.

This is Beth's answer to the question.

$$12.3 \times 10^7$$

Explain why Beth's answer is incorrect.

The table shows the amount of coal used in the UK for a number of years.

Year	Coal used (tonnes)
1980	1.24×10^8
1990	1.08×10^8
2000	5.99×10^7
2010	

How much more coal was used in 1990 than in 2000?
Write the amount of coal used in standard form.

Work out

$$(3 \times 10^5) \times (6 \times 10^9)$$

Give your answer in standard form.

Work out

$$(3 \times 10^5) \div (6 \times 10^9)$$

Give your answer in standard form.

Securing grade 5 – Number – Standard index form

Beth is given the following question.

> Work out
>
> $4.1 \times 10^5 \times 3 \times 10^2$.
>
> Give your answer in standard form.

This is Beth's answer to the question.

$$12.3 \times 10^7$$

Explain why Beth's answer is incorrect.

You can't have a number larger than 10 in your answer.

The table shows the amount of coal used in the UK for a number of years.

Year	Coal used (tonnes)
1980	1.24×10^8
1990	1.08×10^8
2000	5.99×10^7
2010	

How much more coal was used in 1990 than in 2000?
Write the amount of coal used in standard form.

4.81×10^7

Work out

$$(3 \times 10^5) \times (6 \times 10^9)$$

Give your answer in standard form.

1.8×10^{15}

Work out

$$(3 \times 10^5) \div (6 \times 10^9)$$

Give your answer in standard form.

5×10^{-3}