

Maths Reasoning Activity – Rounding

Warming up*

Q1.

Ali puts these five numbers in their correct places on a number line.

511 499 502 555 455

Write the number **closest** to 500

1 mark

Write the number **furthest** from 500

1 mark

Q2.

Circle the number that is **closest to 250**

261 246 255 209 275

1 mark

Q3.

Circle the number that is closest to 300.

338 3030 288 313 130

1 mark

Q4.

Circle the number that is **closest to 700**

750 72 651 69 770

1 mark

Q5.

Circle the number closest to 100

70

120

85

111

909

1 mark

Q6.

Which of these numbers give **80** when **rounded** to the **nearest 10**?

Circle all the correct numbers.

84

87

72

76

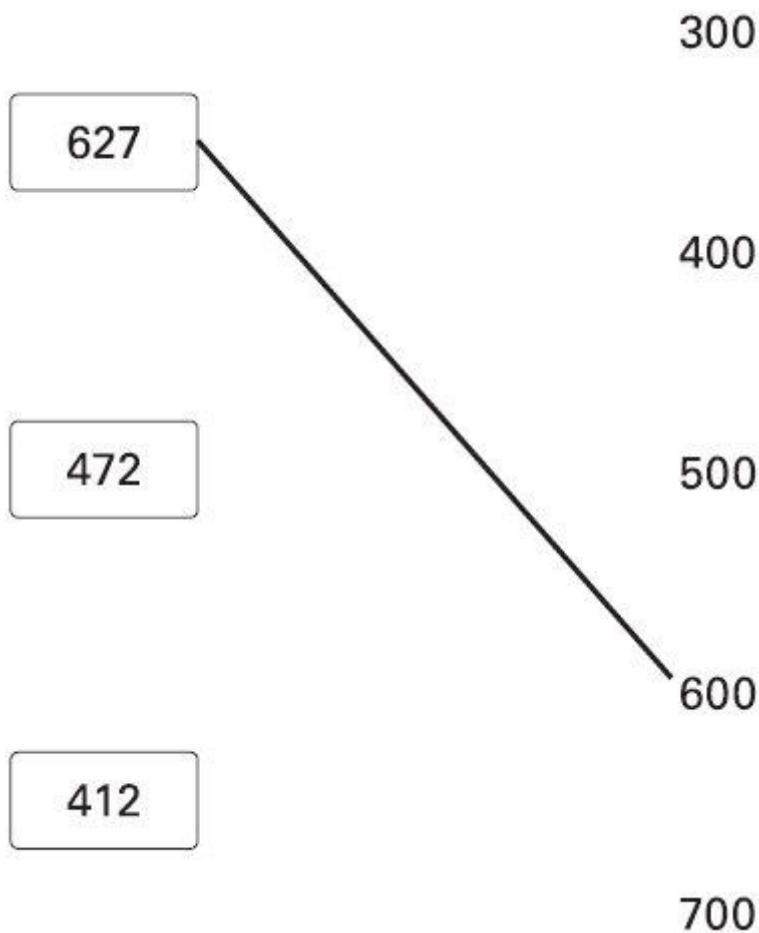
90

1 mark

Q7.

Round each number in a box to the nearest 100

One is done for you.



1 mark

Feeling more confident**

Q1.

3,576,219

Which digit is in the **ten thousands** place?

--

1 mark

Round 3,576,219 to the **nearest million**.

--

1 mark

Q2.

Complete the table.

	Round 39,476
to the nearest 10,000	
to the nearest 1,000	
to the nearest 100	

2 marks

Q3.

Mr Patel bought wood to make two shelves.

The first shelf was 2.8 m long.

And other shelf was 3.9 m long.

What is the shortest length of wood Mr Patel has to buy to make the two shelves?

Circle the correct answer to the nearest metre.

3 m

4 m

5 m

6 m

7 m

8 m

1 mark

Q4.

Circle the number which is **nearest in value to 750**

570

699

810

852

1050

1 mark

Q5.

Circle the number that is **about** the same as the correct answer to $49 + 48$.

Do **not** work out the exact answer.

10

50

40

100

70

200

1 mark

Q6.

Plastic cups are sold in packs of 8

Amir needs 27 cups.



How many packs must he buy?

--

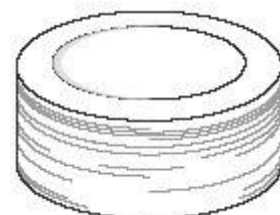
packs

1 mark

There are 30 paper plates in a pack.

Amir buys 2 packs.

He uses 37 plates.



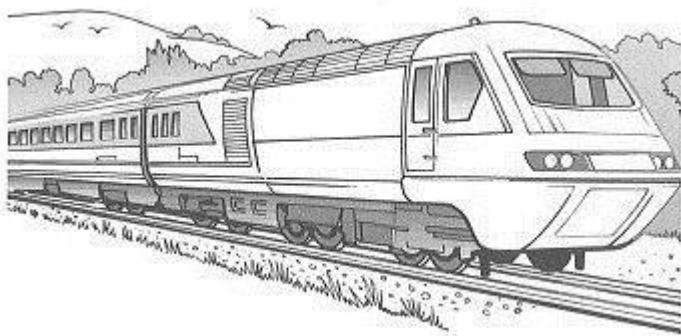
How many plates are left?

plates

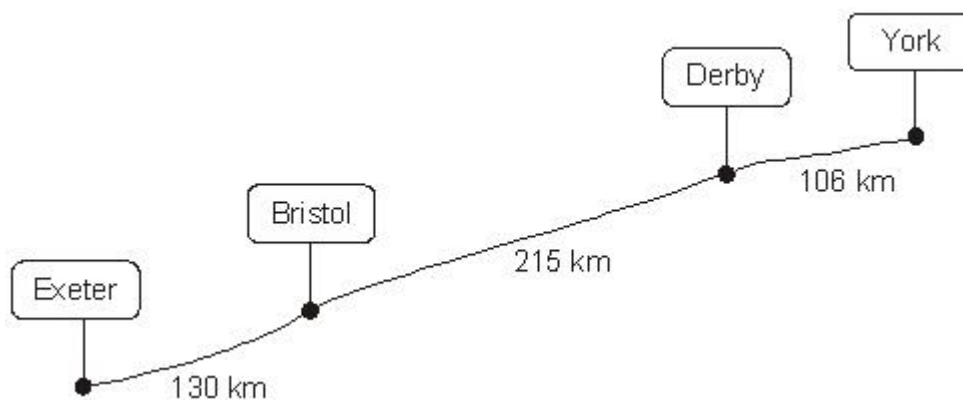
1 mark

Ready for a challenge***

Q1.



The diagram shows distances on a train journey from Exeter to York.



How many kilometres is it altogether from **Exeter** to **York**?

km

1 mark

What is the distance from **Derby** to **York** rounded to the nearest 10 km?

_____ km

1 mark

Q2.

Circle the number which is **closer to 1000**

996 1006

Explain how you know.

A large, empty, cloud-like shape with a scalloped border, intended for drawing.

1 mark

Q3.

Here are three supermarket bills.

	98
offensive	1 07
offensive	54
victim	1 95
offensive	1 00
strategic	00
conflict	35
link off	1 67
sold	1 90
surface	65
proceed	1 99
Total	£74.68

grip	1
shower	1
wash	1
shampoo	1
shave	1
brush	1
toothpaste	1
soap	1
hairbrush	1
Total	£65.90

qetqetqet	1.99
qetqetqet	1.99
qetqetqet	1.95
qetqetqet	1.00
qetqetqet	1.00
qetqetqet	1.95
qetqetqet	1.87
qetqetqet	1.95
qetqetqet	1.95
qetqetqet	1.99
Total	£59.05

Tom rounds each bill **to the nearest £10** and then adds them up.

What is the total amount that Tom gets?

£

1 mark

Mary adds up the three bills **exactly**.

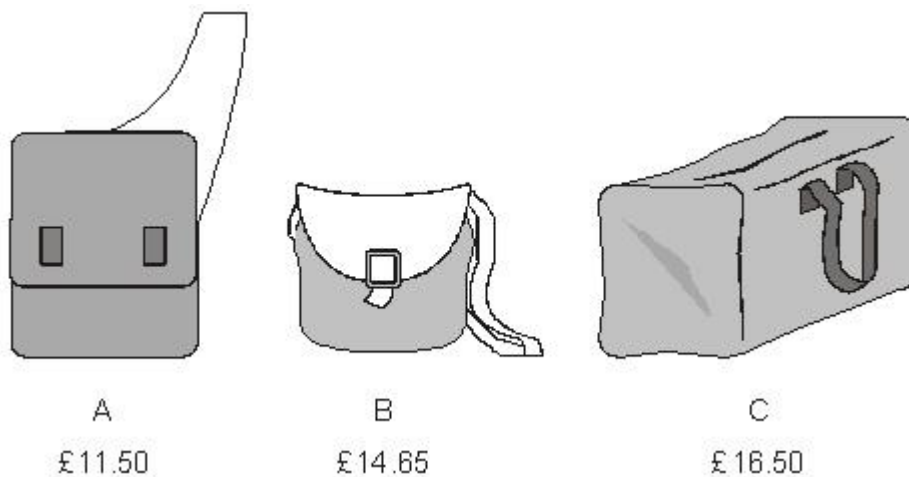
What is the total difference between her total and Tom's total?

Show your method																																

2 marks

Q4.

Here are three bags in a shop



How much does bag B cost to the nearest pound?

£

1 mark

How much change does he get from £40?

2 marks

How much does she pay?

1 mark

Megan buys a piece of cheese costing £2.49



Show
your
method

g

2 marks

Q6.

Runa and Jon each start with the same number.

Runa rounds the number to the nearest hundred.

Jon rounds the number to the nearest ten.

Runa's answer is double Jon's answer.

Explain how this can be.

1 mark

Maths Reasoning Activity – Rounding

Answers

Warming up*

Q1.

(a) 499

1

(b) 555

1

[2]

Q2.

One number circled as shown:

261 246 255 209 275

Do not award the mark if additional incorrect numbers are circled.

Accept: alternative unambiguous indications, eg numbers ticked, crossed or underlined.

[1]

Q3.

Number circled as shown:

338 3030 288 313 130

Accept alternative unambiguous indications.

[1]

Q4.

One number circled as shown:

750 72 651 69 770

Do not award the mark if additional incorrect numbers are circled

Accept alternative unambiguous indications, eg ticks, numbers crossed out or underlined.

[1]

Q5.

Number circled as shown:

70 120 85 111 909

Accept alternative unambiguous indications, eg number ticked, crossed or underlined.

[1]

Q6.

Two numbers circled as shown:

84 87 72 76 90

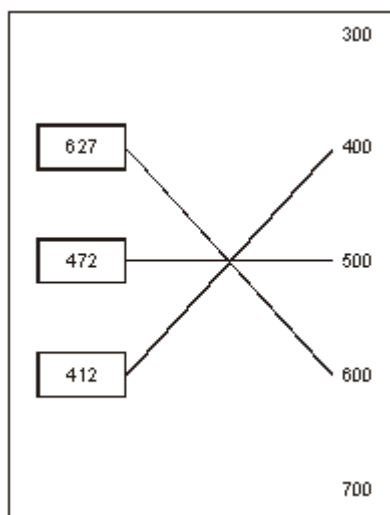
Do not award the mark if additional incorrect numbers are circled.

Accept alternative unambiguous indications, eg ticks, numbers crossed or underlined.

[1]

Q7.

The two numbers matched correctly as shown:



Both lines must be drawn correctly for the award of the mark.

Lines need not touch the boxes or numbers exactly, provided the intention is clear.

Do not accept two or more lines drawn from the same left-hand box.

[1]

Feeling more confident**

Q1.

(a) 7

Do not accept 70,000 or 70 thousands.

1m

(b) 4,000,000

Accept 4 million or four million

Do not the answer 4

1m

[2]

Q2.

Award **TWO** marks for the correct completion of the three numbers in the table, as shown:

	Round 39,476
to the nearest 10,000	40,000
to the nearest 1,000	39,000
to the nearest 100	39,500

If the answer is incorrect, award **ONE** mark for **any two** of the numbers rounded correctly.

Do not accept 9,000 or 500 for the second and third entries.

Up to 2m

Q3.

7 m circled

[1]

Q4.

570  810 852 1050

[1]

Q5.

100

[1]

Q6.

(a) 4

1

(b) 23

1

[2]

Ready for a challenge***

Q1.

(a) 451

1

(b) 110

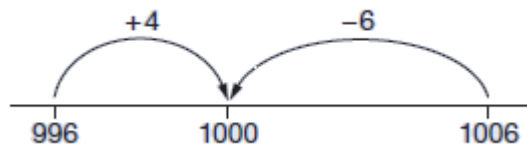
1

[2]

Q2.

996 circled, and an explanation that it is closer in value than 1006 to 1000, eg:

- '996 is 4 less than 1000, but 1006 is 6 more'
- ' $1000 - 996 = 4$, $1006 - 1000 = 6$ '
- 'It's closer by 2'
-



- 'Both end in 6 which means to the nearest ten they round up. So 996 rounds up to 1000, but 1006 rounds up to 1010'
- '1006 is nearer 1010, but 996 is nearer 1000'
- '996 is only 4 away'.

No mark is awarded for circling 996 alone.

Do not accept vague or incomplete explanations, eg:

- '1006 is further away'
- '996 is less than 1000, but it is still closer than 1006'

If 996 is not circled, but a correct, unambiguous explanation is given, then award the mark.

U1

[1]

Q3.

(a) £200

1

(b) Award **TWO** marks for the correct answer of 37p **OR** £0.37

OR

for finding the correct difference between £199.63 and the answer given for 13a

Answer to (a) must be a multiple of £10 for the award of

TWO follow-through marks.

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg

$$74.68 + 65.90 + 59.05 = 199.63$$

$$200 - 199.63$$

OR

for evidence of an appropriate method to find the correct difference between £199.63 and the answer given for (a).

*Answer need not be obtained for the award of **ONE** mark.*

*Accept for **ONE** mark £37p **OR** 0.37p **OR** £37 as evidence of appropriate method.*

Up to 2

[3]

Q4.

- (a) £15

1

- (b) Award **TWO** marks for the correct answer of £12

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg

$$11.50 + 16.50 = 28$$

$$40 - 28 = \text{wrong answer}$$

*Accept: for **ONE** mark £1200 **OR** £1200p as evidence of appropriate working.*

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

[3]

Q5.

- (a) £4.06

*! Money
See guidance*

1

- (b) 200

*! Measures
See guidance*

2

or

Gives an answer of 180 or 184 or 184.4(...)

OR

Shows or implies a complete correct method, eg:

- $1000 \times 2.49 \div 13.50$
- $\pounds 13.50 \div \pounds 2.49 = 5.42$
 $1000 \div 5.42$

- $1350 \div 1000 = 1.35$
 $249 \div 1.35$

- $\pounds 1.35 = 100$

$$\pounds 2.70 = 200$$

! Inconsistent units

Within an otherwise correct method, condone eg, for 1 mark accept:

- $(\pounds)13.50 \div 1000 = 1.35(p)$
 $(\pounds)2.49 \div 1.35(p)$
- $(\pounds)13.50 \div 1000 = (\pounds)0.0135$
 $249(p) \div (\pounds)0.0135$

1

[3]

Q6.

Gives a correct explanation with a number x such that $50 \leq x < 55$, or $-5 < x < 5$, as an example, eg:

- 53 to the nearest hundred is 100, and to the nearest ten is 50 and $2 \times 50 = 100$
- If it's 50 or more but less than 55 it will round to 100 (nearest hundred) and 50 (nearest ten) and 100 is double 50
- 0 is 0 to the nearest 100 and 0 to the nearest 10 and twice 0 is 0

Accept minimally acceptable explanation, eg:

- 51 rounds to 50 and 100
- $54 \rightarrow 50$ and $54 \rightarrow 100$
- 50 rounds to 100
- 0 rounds to 0

Do not accept incomplete or incorrect explanation, eg:

- They used 51
- $50 \times 2 = 100$
- They could use between 50 and 55, which round to 100

U1

[1]