a

Marni has an unlimited supply of 3p and 5p stamps. She could make 11p worth of stamps using a 5p and two 3ps.

What totals between 1p and 10p inclusive would she not be able to make using the 3p and 5p stamps only?

b

What is the number?

- It is a factor of 900.
- It is less than 50.
- It is a multiple of 9.
- The product of its digits is 20.

c

What is the square of 5^2?

d

What are the next two numbers in the sequence:

1, 5, 3, 10, 5, 15, ...?

e

Two numbers have a highest common factor of 4 and a lowest common multiple of 120.

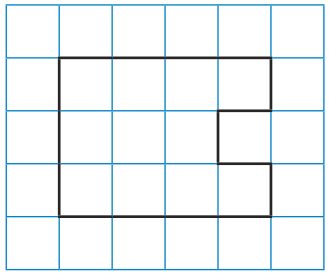
What could the numbers be? Give as many possible answers as you can think of.

f

Evaluate:

$10 - 10 \times 10 \div \frac{10}{10} + 10$

a



The perimeter of this irregular octagon is 48cm.

What is its area?

b

Find the following words in the word search: fraction, ratio, percentage, decimal.

V	M	N	U	S	I	R	J	E	O
R	Q	O	B	R	C	B	Y	R	I
G	Z	I	P	J	V	T	P	D	T
Q	R	T	E	N	M	H	R	C	A
V	U	C	R	S	V	L	B	W	R
W	D	A	C	N	W	V	J	O	U
L	E	R	E	P	M	F	G	J	U
T	C	F	N	G	I	I	S	L	L
J	I	A	T	Q	Y	W	G	L	V
J	M	N	A	B	F	B	Z	P	Q
V	A	U	G	D	V	G	O	J	Z
F	L	J	E	I	X	W	Q	P	A

c

A regular pentagon-based pyramid has 5 faces which are equilateral triangles. The perimeter of its net is 70cm.

What is the perimeter of the base of the pyramid?

d

What are the next two numbers in the sequence:

2, 5, 7, 12, 19, ...?

e

Write 1 thing about each of the words from question b.

For example, if you were given the word octagon, you might write "An octagon is a shape with 8 straight sides."

fraction: _____

_____

ratio: _____

_____

percentage: _____

_____

decimal: _____

_____

f

What is the number?

- It is a square number.
- It is a cube number.
- It has two digits.

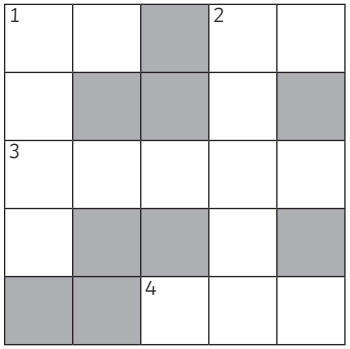
a

What is the number?

- It is a multiple of 9.
- The product of its digits is 12.
- It is between 200 and 300 inclusive.
- It is odd.

b

Uses the clues to complete the cross number:



Down:

1. 12 388 ÷ 2
2. 17 123 × 5

Across:

1. The 9th multiple of 7
2. The 12th multiple of 7
3. The 10th multiple of 9346
4. 91 × 5

c

$5 - \frac{5+5}{5} \times 5 + \frac{5}{5}$

d

Casey has 78p made up of 6 coins.

What different combinations of coins could she have?

e

What are the next two numbers in the sequence:

2, 6, 18, 54, ...?

f

Two numbers have a highest common factor of 5 and a lowest common multiple of 210.

What could the numbers be? Give as many possible answers as you can think of.

a

Find the following words in the word search: expression, term, equation, inequality.

U	C	E	D	S	K	H	P	C	S
E	N	X	J	M	V	H	C	B	T
E	Q	P	M	Y	Q	S	O	W	O
L	S	R	M	J	S	N	U	M	J
I	N	E	Q	U	A	L	I	T	Y
O	Q	S	R	R	C	B	L	T	V
J	C	S	H	M	W	V	E	E	O
Q	B	I	D	K	R	R	A	Y	Z
V	H	O	D	U	M	K	H	F	N
L	R	N	Z	U	T	W	K	D	H
N	O	I	T	A	U	Q	E	S	Q
O	O	Z	R	H	O	R	W	E	V

b

What is the number?

- It is a prime number.
- It is a factor of 3990.
- The sum of its digits is 10.

c

@ + @ = #

@ + # = 27

What are the values of @ and #?

d

Five children share out some sweets equally. They each eat 8 of their sweets but each child saves some sweets to eat later.

The total number of sweets remaining is equal to the number of sweets each child received when they were first shared out.

How many sweets were there originally?

e

What are the next two numbers in the sequence:

$\frac{1}{5}$, $\frac{4}{10}$, $\frac{7}{15}$, $\frac{10}{20}$, ...?

f

Write 1 thing about each of the words from question a.

For example, if you were given the word octagon, you might write, "An octagon is a shape with 8 straight sides."

expression: _____

_____

term: _____

_____

equation: _____

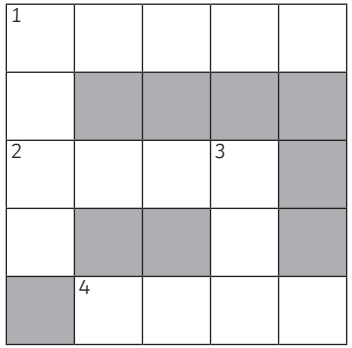
_____

inequality: _____

_____

a

Uses the clues to complete the cross number:



Across:

1. 2242 + 10 101

2. 3119 × 2

4. 431 × 8

Down:

1. 4656 ÷ 4

3. 1000 – 186

b

What is the number?

- It is less than 100.
- It is a triangle number.
- It is a square number.
- It is an even number.

c

Find the following words in the word search:
angle, corresponding, alternate, exterior.

O	C	E	Y	W	O	K	G	C	E
L	J	T	P	K	S	I	N	H	Z
W	L	A	X	L	S	F	I	C	T
Q	Y	N	P	N	Y	T	D	H	D
R	N	R	E	Y	G	J	N	Z	D
O	G	E	H	A	L	N	O	D	Q
I	O	T	D	H	Q	Z	P	O	H
R	I	L	R	A	P	N	S	I	U
E	Y	A	R	S	H	Q	E	Q	P
T	M	N	E	X	V	O	R	L	N
X	A	G	Q	C	X	S	R	N	M
E	L	L	G	V	T	I	O	Y	M
B	A	E	L	A	P	W	C	X	H

d

What is the reciprocal of the reciprocal of the reciprocal of $\frac{1}{2}$?

e

Niamh has £1.27 made up of 5 coins.

What different combinations of coins could she have?

f

Write 1 thing about each of the words from question c.

For example, if you were given the word octagon, you might write, "An octagon is a shape with 8 straight sides."

angle: _____

_____

corresponding: _____

_____

alternate: _____

_____

exterior: _____

_____

a

What is the number?

- It is less than 100.
- It is a multiple of 7.
- Its digits add to 10.
- It is even.

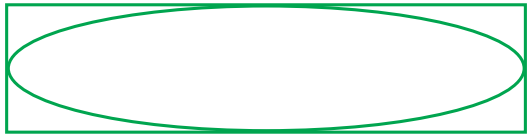
b

I think of a number.

- When I divide it by 5, the remainder is 3.
- When I divide it by 7, the remainder is 4.

Give two possible values of my number.

b



The diagram shows a rectangular field with a length of 200m and a width of 50m. Billy runs around the oval track shown, making contact with the fences of the field four times.

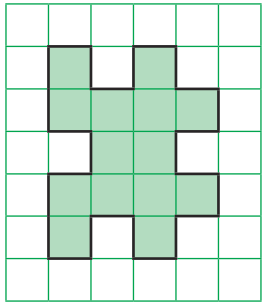
Billy says that he has run more than 500m but less than 600m.

Jenny says that he has run more than 400m but less than 500m.

Maggie says that he has run more than 300m but less than 400m.

Who is correct? Give a reason for your answer.

d



The area of the polygon is 224cm^2.

What is its perimeter?

e

Fit the numbers 1 to 9 into the grid so that each row and column adds to the same total.

f

If the day after the day before two days after tomorrow is Sunday, what day is it today?

a

Marni has an unlimited supply of 3p and 5p stamps. She could make 11p worth of stamps using a 5p and two 3ps.

What totals between 1p and 10p inclusive would she not be able to make using the 3p and 5p stamps only?

1p, 2p, 4p, 7p.

b

What is the number?

- It is a factor of 900.
- It is less than 50.
- It is a multiple of 9.
- The product of its digits is 20.

45

c

What is the square of 5^2?

625

d

What are the next two numbers in the sequence:

1, 5, 3, 10, 5, 15, ...?

7, 20

e

Two numbers have a highest common factor of 4 and a lowest common multiple of 120.

What could the numbers be? Give as many possible answers as you can think of.

4 and 120

20 and 24

12 and 40

8 and 60

f

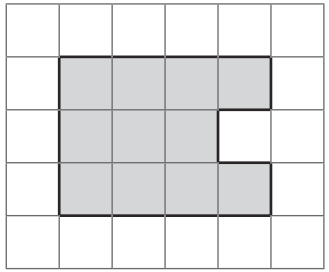
Evaluate:

$10 - 10 \times 10 \div \frac{10}{10} + 10$

Note: if you gave addition priority over subtraction here, you would get the wrong answer. Remember that add and subtract are of equal importance and should be applied in order from left to right. The same is true for divide and multiply.

-80

a



The perimeter of this irregular octagon is 48cm.

What is its area?

99cm²

b

Find the following words in the word search: fraction, ratio, percentage, decimal.

V	M	N	U	S	I	R	J	E	L
R	Q	O	B	R	C	B	Y	R	W
G	Z	I	P	J	V	T	P	D	F
Q	R	T	E	N	M	H	R	C	A
V	U	C	R	S	O	I	T	A	R
W	D	A	C	N	W	V	J	O	U
L	E	R	E	P	M	F	G	J	U
T	C	F	N	G	I	I	S	L	L
J	I	A	T	Q	Y	W	G	L	V
J	M	N	A	B	F	B	Z	P	Q
V	A	U	G	D	V	G	O	J	Z
F	L	J	E	I	X	W	Q	P	A

c

A regular pentagon-based pyramid has 5 faces which are equilateral triangles. The perimeter of its net is 70cm.

What is the perimeter of the base of the pyramid?

35cm

d

What are the next two numbers in the sequence:

2, 5, 7, 12, 19, ...?

31, 50

e

Write 1 thing about each of the words from question b.

For example, if you were given the word octagon, you might write "An octagon is a shape with 8 straight sides."

fraction: _____

ratio: _____

percentage: _____

decimal: _____

Answers will vary.

f

What is the number?

- It is a square number.
- It is a cube number.
- It has two digits.

64

a

What is the number?

- It is a multiple of 9.
- The product of its digits is 12.
- It is between 200 and 300 inclusive.
- It is odd.

261

b

Uses the clues to complete the cross number:

1 **6**	**3**		2 **8**	**4**
1			**5**	
3 **9**	**3**	**4**	**6**	**0**
4			**1**	
		4 **4**	**5**	**5**

Down:

1. 12 388 ÷ 2
2. 17 123 × 5

Across:

1. The 9th multiple of 7
2. The 12th multiple of 7
3. The 10th multiple of 9346
4. 91 × 5

c

$5 - \frac{5+5}{5} \times 5 + \frac{5}{5}$

Note: if you gave addition priority over subtraction here you would get the wrong answer.

Remember that add and subtract are of equal importance and should be applied in order from left to right. The same is true for divide and multiply.

–4

d

Casey has 78p made up of 6 coins.

What different combinations of coins could she have?

50p, 20p, 5p, 1p, 1p, 1p

50p, 10p, 10p, 5p, 2p, 1p

50p, 20p, 2p, 2p, 2p, 2p

e

What are the next two numbers in the sequence:

2, 6, 18, 54, ...?

162, 486

f

Two numbers have a highest common factor of 5 and a lowest common multiple of 210.

What could the numbers be? Give as many possible answers as you can think of.

5 and 210

15 and 70

10 and 105

35 and 30

a

Find the following words in the word search: expression, term, equation, inequality.

U	C	E	D	S	K	H	P	C	S
E	N	X	J	M	V	H	C	B	T
E	Q	P	M	Y	Q	S	O	W	O
L	S	R	M	J	S	N	U	M	J
I	N	E	Q	U	A	L	I	T	Y
O	Q	S	R	R	C	B	L	T	V
J	C	S	H	M	W	V	E	E	O
Q	B	I	D	K	R	R	A	Y	Z
V	H	O	D	U	M	K	H	F	N
L	R	N	Z	U	T	W	K	D	H
N	O	I	T	A	U	Q	E	S	Q
O	O	Z	R	H	O	R	W	E	V

b

What is the number?

- It is a prime number.
- It is a factor of 3990.
- The sum of its digits is 10.

19

c

@ + @ = #

@ + # = 27

What are the values of @ and #?

@ = 9

 # = 18

d

Five children share out some sweets equally. They each eat 8 of their sweets but each child saves some sweets to eat later.

The total number of sweets remaining is equal to the number of sweets each child received when they were first shared out.

How many sweets were there originally?

Where x is the original number of sweets:

$5 \times 8 = 40$

$x - 40 = \frac{x}{5}$

$\frac{4x}{5} = 40$

$x = 50$

50

e

What are the next two numbers in the sequence:

$\frac{1}{5}, \frac{4}{10}, \frac{7}{15}, \frac{10}{20}, \ldots$?

$\frac{13}{25}, \frac{16}{30}$

f

Write 1 thing about each of the words from question a.

For example, if you were given the word octagon, you might write, "An octagon is a shape with 8 straight sides."

expression: _____

term: _____

equation: _____

inequality: _____

Answers will vary.

a

Uses the clues to complete the cross number:

1 **1**	**2**	**3**	**4**	**3**
1				
2 **6**	**2**	**3**	3 **8**	
4			**1**	
	4 **3**	**4**	**4**	**8**

Across:

1. 2242 + 10 101

2. 3119 × 2

4. 431 × 8

Down:

1. 4656 ÷ 4

3. 1000 – 186

b

Niamh has £1.27 made up of 5 coins.

What different combinations of coins could she have?

£1, 20p, 5p, 1p, 1p

£1, 10p, 10p, 5p, 2p

50p, 50p, 20p, 5p, 2p

c

Find the following words in the word search: angle, corresponding, alternate, exterior.

O	C	E	Y	W	O	K	G	C	E
L	J	T	P	K	S	I	N	H	Z
W	L	A	X	L	S	F	I	C	T
Q	Y	N	P	N	Y	T	D	H	D
R	N	R	E	Y	G	J	N	Z	D
O	G	E	H	A	L	N	O	D	Q
I	O	T	D	H	Q	Z	P	O	H
R	I	L	R	A	P	N	S	I	U
E	Y	A	R	S	H	Q	E	Q	P
T	M	N	E	X	V	O	R	L	N
X	A	G	Q	C	X	S	R	N	M
E	L	L	G	V	T	I	O	Y	M
B	A	E	L	A	P	W	C	X	H

d

What is the number?

- It is less than 100.
- It is a triangle number.
- It is a square number.
- It is an even number.

36

e

What is the reciprocal of the reciprocal of the reciprocal of $\frac{1}{2}$?

2

f

Write 1 thing about each of the words from question c.

For example, if you were given the word octagon, you might write, "An octagon is a shape with 8 straight sides."

angle: _____

corresponding: _____

alternate: _____

exterior: _____

Answers will vary.

a

What is the number?

- It is less than 100.
- It is a multiple of 7.
- Its digits add to 10.
- It is even.

28

b

I think of a number.

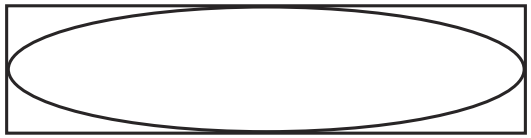
- When I divide it by 5, the remainder is 3.
- When I divide it by 7, the remainder is 4.

Give two possible values of my number.

For example:

18, 53

b



The diagram shows a rectangular field with a length of 200m and a width of 50m. Billy runs around the oval track shown, making contact with the fences of the field four times.

Billy says that he has run more than 500m but less than 600m.

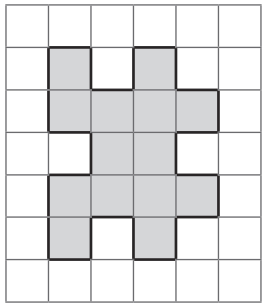
Jenny says that he has run more than 400m but less than 500m.

Maggie says that he has run more than 300m but less than 400m.

Who is correct? Give a reason for your answer.

Jenny is correct. Billy ran a shorter distance than the perimeter of the field (500m) but he ran farther than if he had run the length and back (400m).

d



The area of the polygon is 224cm^2.

What is its perimeter?

104cm

e

Fit the numbers 1 to 9 into the grid so that each row and column adds to the same total.

One possible answer:

2	**9**	**4**
7	**5**	**3**
6	**1**	**8**

f

If the day after the day before two days after tomorrow is Sunday, what day is it today?

Thursday