Y6 Remote Learning

ANSWER PACK

1st - 5th March 2021

Maths Answers Lesson 1

Find pairs of values (1)

White Rose Maths

1 a) Here is an equation.

○ + □ = 12

Find six possible pairs of values for the circle and square.

e.g.

○	1	2	3	4	5	6
□	11	10	9	8	7	6

b) Here is another equation.

$x + y = 12$

Find six possible pairs of values for x and y.

e.g.

x	1	2	3	4	5	6
y	11	10	9	8	7	6

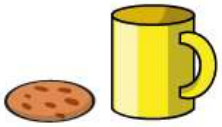
c) What is the same and what is different about part a) and part b)?

Answers are the same, representations are different.

2 Kim buys these two items from a cafe.

The total cost is 90p.

a) What could the cost of each item be?



e.g.

	10p	20p	30p	40p	50p	60p
	80p	70p	60p	50p	40p	30p

b) Compare answers with a partner.

c)

Is this possible? No

Explain your answer.

The cookie wouldn't cost anything.

3 a and b are whole numbers.

$a + b = 8$

Complete the table to show different possible values for a and b.

a	0	1	2	3	4	5	6	7
b	8	7	6	5	4	3	2	1
$a + b$	8	8	8	8	8	8	8	8

What patterns do you notice?

4 c and d are both numbers less than 20

$$c - d = 4$$

Complete the table to show possible values for c and d.

c	19	18	17	16	15	14	13	12
d	15	14	13	12	11	10	9	8
$c - d$	4	4	4	4	4	4	4	4

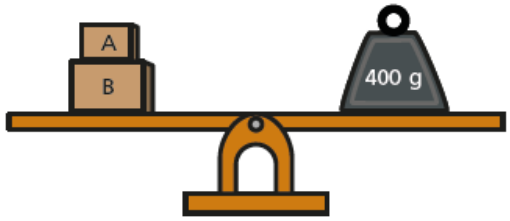
5 a and b are integers.

$$ab = 24$$

List all the possible values for a and b.

a	1	2	3	4	6	8	12	24
b	24	12	8	6	4	3	2	1

6 Some scales are balanced.



What could the masses of the boxes be?

eg A = 100g B = 300g

7 Rosie has three number cards.

x	y	z

- The sum of the cards is 12
- x is greater than y and y is greater than z.
- All the numbers are greater than zero.

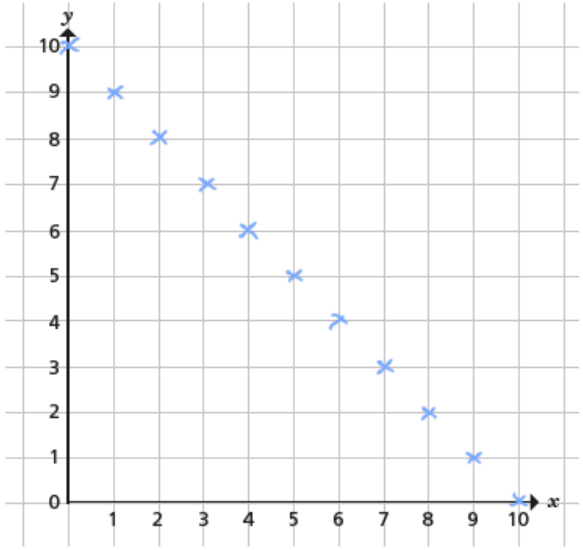
List all the possible values of x, y and z.

x	9	8	7	6	7	6	5
y	2	3	4	5	3	4	4
z	1	1	1	1	2	2	3

8 Eva is plotting co-ordinates (x, y) on a grid.

She is only plotting co-ordinates where $x + y = 10$

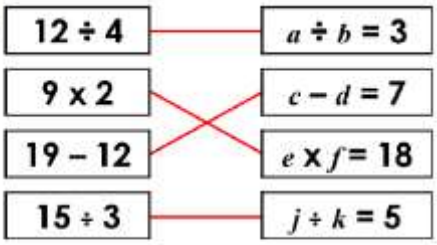
Plot all the points Eva can plot on the grid.



Red Answers

Varied Fluency

1a.



2a. $r = 2$, $s = 8$

3a. A and C

4a. 2 more

Reasoning and Problem Solving

1a. Felicity is incorrect as because both letters would represent 8, but each letter should represent a different number.

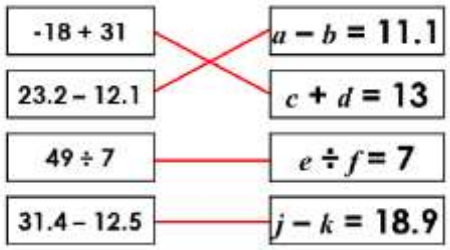
2a. $a = 4$; $b = 3$

3a. Richie is incorrect because 17 is not being divided, it is the answer.

Gold Answers

Varied Fluency

9a.



10a. $r = 3.7$, $s = -12.9$

11a. A and D

12a. 8 more

Reasoning and Problem Solving

7a. Polly is incorrect because 8 ÷ 28 would give an answer less than 1. Her numbers would work if she swapped them around.

8a. $a = 84$; $b = 0.5$

9a. Evan is incorrect because when two negative numbers are multiplied, the answer is positive. Example: -2 x -5 = 10.

Deepen the Moment

Determine whether each child's statement about the equation below is true or false.
All numbers are whole numbers.

Britney

c and e will always be larger than d. False

Cori

d or e can be a negative number. False

Jesse

c and e can have a difference of 1. False

$$\frac{c}{d} < 0.7 > \frac{d}{e}$$

Investigate the possible values that could satisfy the equation.

$c = 5$; $d = 8$; $e = 16$

Maths Answers Lesson 2

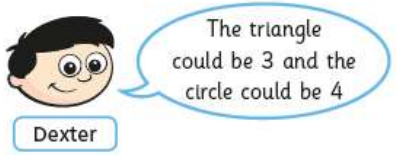
Find pairs of values (2)

White Rose Maths

1 Class 6 are trying to solve a number puzzle.

▲ + ▲ + ● = 10

a)

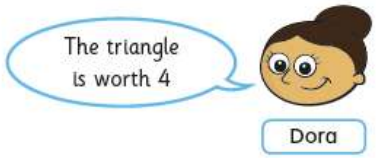


Do you agree with Dexter? Yes

Explain why.

3 + 3 + 4 = 10

b)



What is the value of the circle in Dora's number puzzle?

● = 2

c) Find other pairs of values that the triangle and circle could equal.

Find three pairs.

▲ = 1 ● = 8 ▲ = 5 ● = 0

▲ = 2 ● = 6

2 a and b are whole numbers.

$2a + b = 14$

Complete the table to show different possible values for a and b.

a	0	1	2	3	4	5	6	7
$2a$	0	2	4	6	8	10	12	14
b	14	12	10	8	6	4	2	0
$a + b$	14	14	14	14	14	14	14	14

3 c and d are both integers less than 15 but greater than zero.

$3c - d = 2$

Complete the table to show different possible values for c and d.

c	1	2	3	4	5
$3c$	3	6	9	12	15
d	1	4	7	10	13
$3c - d$	2	2	2	2	2

b) Explain why there are no other possible values for c and d.

If c was 16 d would be greater than 15

4 x and y are both multiples of 5 less than 100

If $2x = y$, circle the possible values of x and y.

$x = 20, y = 20$

$x = 10, y = 20$ ✓

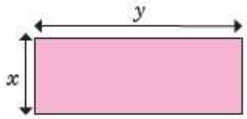
$x = 20, y = 10$

$x = 35, y = 70$ ✓

$y = 90, x = 45$ ✓

5 Here is a rectangle.

x and y are both integers.



The rectangle has a perimeter of 28 cm.

a) Write an equation to represent the perimeter of the rectangle.

$2x + 2y = 28$

b) List all the possible pairs of values for x and y.

$x = 1$ $y = 13$ $x = 5$ $y = 9$

$x = 2$ $y = 12$ $x = 6$ $y = 8$

$x = 3$ $y = 11$

$x = 4$ $y = 10$

Compare answers with a partner. How do you know you have found all the possible values?

6 Aisha is buying some stationery for school.

She spends exactly £1

List the possible combinations of pencils and pens that Aisha could have bought.

10 pencils 6 pens & 1 pencil

2 pens & 7 pencils

4 pens & 4 pencils

7 Ron has four digit cards.

- Two of the cards have the same value.
- All of the cards are less than 10 but greater than zero.
- All of the cards are odd.
- The sum of the four cards is 24

Find two possible sets of cards.

Set 1	1	5	9	9
Set 2	1	7	7	9

8 $2ab = 48$

a) Find a pair of possible values for a and b.

e.g. $a =$ 6 $b =$ 4

b) Work with a partner to find as many pairs of values as you can.

Red Answers

Varied Fluency

1a. $a = 16$ and $b = 4$

2a. 19 and 14; 15 and 10; 12 and 7; 8 and 3

3a. $b = 9$ and $c = 4$

4a. Various answers, for example: if $a = 9$, then $b = 0$; if $a = 8$, then $b = 2$; if $a = 7$, then $b = 4$.

Reasoning and Problem Solving

1a. Katya is incorrect because $2 \times 7 = 14$; $14 + 4 = 18$ so $d = 4$ not 5.

2a. A, C or D could be true. For example:
A. $a = 5$; C. $a = 3$; D. $a = 5$

3a. Various answers, for example: $m = 6$, $s = 4$; $m = 7$, $s = 2$; $m = 5$, $s = 6$

Gold Answers

Varied Fluency

9a. $a = 64$ and $b = 6$

10a. 4.5 and 10; 0.5 and 6; 6.5 and 12; -4.5 and 1

11a. $y = 15.5$ and $v = 5$

12a. Various answers, for example: If $a = 8$, then $b = 0.5$; if $a = 6$, then $b = 3.5$; if $a = 4$, then $b = 6.5$.

Reasoning and Problem Solving

7a. Gillian is incorrect because $7 \times \frac{1}{2} = 3.5$; $12.5 - 3.5 = 9$. $9 \div 2 = 4.5$ so $y = 4.5$.

8a. A, B, C or D could be true. For example:
A. $a = -7$; B. $a = -5$; C. $a = -10$; D. $a = -4$

9a. Various answers, for example: $m = 5$, $s = 3.75$; $m = 6$, $s = 2.75$; $m = 4$, $s = 4.75$

Deepen the Moment

Various answers, for example: $8d + 22s = £21.00$

Maths Answers Lesson 3 – End of Block Assessment

Year 6

Algebra

White Rose Maths

Name _____

1 Here is a function machine.

Input → [+ 5] → Output

Complete the sentences.

When the input is 7, the output is 12

When the input is 2, the output is 7

2 marks

2 If ☆ = 6 and ☺ = 8, find the total of each row and column.

☆	☆	☺	20
☆	♡	☺	26
♡	♡	☺	32
24	30	24	

3 marks for 4 correct.
2 marks for 3 correct.
1 mark for 2 correct.

3 marks

3 c and d represent positive integer variables.

$c + d = 5$

Complete the table to show possible values of c and d.

c	d
1	4
2	3
3	2
4	1

Accept 0 and 5 or 5 and 0
1 mark for at least 2 correct combinations.

2 marks

4 Solve the equations.

$x + 3 = 9$

$x = 6$ — 1 mark

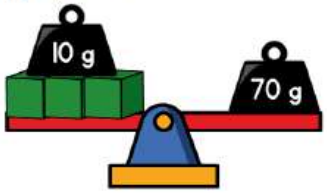
$b - 3 = 9$

$b = 12$ — 1 mark

$3c = 12$

$c = 4$ — 1 mark

5 Hassan is balancing objects.



What is the mass of one of the cubes?

1 mark for working out the mass of 3 cubes is 60 g.

20 g

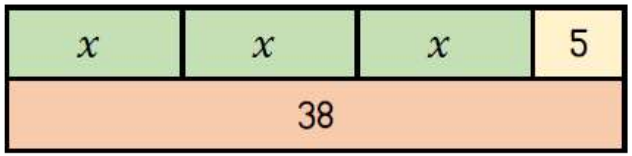
2 marks

6 If $p = 7$, what is the value of $2p + 9$?

23

1 mark

7 Nina uses a bar model to solve $3x + 5 = 38$



Solve the equation $3x + 5 = 38$

1 mark for $3x = 33$

$x = 11$

2 marks

8 Solve $10y - 3 = 77$

1 mark for $10y = 80$

$y = 8$

2 marks

9 Dexter is selling ice-creams.

He uses this formula to work out the price.

$$\text{Price} = £1.50s + £0.40t$$

Where s is the number of scoops and t is the number of toppings.

Work out the cost of an ice-cream with 2 scoops and 3 toppings.

£ 4.20

1 mark

Libby buys an ice-cream that costs £2.30

How many scoops does she have?

1

1 mark

How many toppings does she have?

2

1 mark

Circle how confident you feel with algebra.

1	2	3	4	5
Not confident				Very confident

Maths Answers Lesson 4

Metric measures

White Rose Maths

1 Sort the metric units into the correct categories.

ml	mm	g	kg	tonne	l	km

Mass	Length	Capacity
g tonne kg	mm km	ml l

2 Match the measure to its definition.

length	how much an object weighs
volume	the amount of space enclosed by a container
mass	how much of a solid, liquid or gas an object can hold
capacity	the measurement of something from end to end

3 Circle the most appropriate unit for each item.

a) the mass of an elephant

g kg l (tonnes)

b) the length of a classroom

cl cm (m) km

c) the capacity of a water bottle

cm^3 m^3 (ml) l

d) the length of a fly

(mm) cm m mg

4 Circle the best estimate for each item.

a) the capacity of a glass

2 ml 20 ml (200 ml) 2,000 ml

b) the length of a rounders bat

50 mm (50 cm) 50 m 50 km

c) the mass of a car

1.5 g 1.5 kg (1.5 tonnes) 15 kg

d) the length of a football pitch

100 cm (100 m) 100 km 100 mm

5 Estimate the length of your classroom. Give units with your answer.

Variou

6

It's impossible to measure the school field using centimetres!

Do you agree with Mo? No

Explain your thinking.

It's not impossible it's just not the most appropriate /efficient.

7 Estimate how much water it would take to fill a bath.

Various

Explain your estimate to a partner.

8 Dora and Ron are estimating the capacity of a jug.

The capacity of a jug is approximately 1 litre.

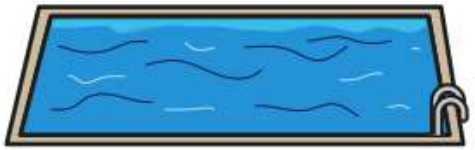
The capacity of a jug is approximately 600 ml.

They could both be correct.

Talk about why with a partner.

9 Eva is thinking about how to estimate the capacity of a swimming pool.

I know that a metal can holds roughly 200 ml of liquid. So to find out the capacity of a swimming pool, I could just imagine how many cans could fit into it!



Create your own way of estimating the capacity of a swimming pool.

Various

10

I wonder how heavy our school is.

Write a plan to estimate the mass of your school.

Various

Red Answers

Varied Fluency

1a. Weight – grams; length – centimetres, millimetres.

2a. 100g is the odd one out; the others are all units of length.

3a. ruler

4a. It is 90m long.

Reasoning and Problem Solving

1a. Various answers, for example:
1km, 880m. Each is around the same distance and both are plausible distances for children to walk.

2a. Various answers, for example:
I agree with Jaxon because litres is a greater measure of volume than millilitres. In context, 30ml wouldn't fill a cup, so much more water would be needed to fill a paddling pool.

3a. Various answers, for example:
a table leg – 1m, a pencil case – 30cm, a water bottle – 50cm, a rubber – 5cm.

Gold Answers

Varied Fluency

9a. Weight – tonnes, grams; distance – kilometres; volume – millilitres, m^3; area – km^2.

10a. $\frac{1}{2}$ $50cm^3$ is the odd one out; the others are all units of area.

11a. bath

12a. It has $\frac{1}{2}$ a 1,600m circumference; It is 100m long.

Reasoning and Problem Solving

7a. Various answers, for example:
2.5m. The missing measurements could be: Martha – 200cm, Jake – 2.2m. These are accurate estimates because each is around the same height, which would be plausible for children in the same class.

8a. Various answers, for example:
I agree with Safeeyah because she has used the correct unit of measurement for area; Pippa's use of m^3 refers to volume, not area.

9a. Various answers, for example:
2 pens – 40cm, a chair – 0.5m, a teacher – 1.5m, 2 water bottles – 60cm.

Deepen the Moment

The capacity of the pool is 649.5 L. Estimate the current volume of the pool.
Various answers, for example: 461 L
In order to fill the pool as close to capacity as possible, explore the different combinations of bucket Max could use.

You must use at least three different buckets, but can use each one more than once.
Various answers, for example: 5 x bucket 5 (92.5 L), 2 x bucket 4 (30 L), 4 x bucket 3 (50 L), 2 x bucket 1 (16 L) to get a total of 188.5 L.

Maths Answers Lesson 5 (*Twinkl Arithmetic Paper 4)*

question	answer	marks
1	**21**	1
2	**107**	1
3	**753**	1
4	**9.2**	1
5	**7674**	1
6	**732**	1
7	**9**	1
8	**0.33**	1
9	$\frac{10}{7}$ or $1\frac{3}{7}$	1
10	**90**	1
11	**9.301**	1
12	**12**	1
13	**90**	1
14	**4200**	1
15	$\frac{1}{11}$	1
16	**4560**	1
17	**86.56**	1
18	**100 872**	1
19	**1050**	1
20	**700**	1
21	**6.9**	1

question	answer	marks
22	**188**	1
23	**24.67**	1
24	$\frac{1}{20}$	1
25	**1260**	2
26	**388 334**	1
27	$32\frac{1}{2}$	1
28	$1\frac{1}{10}$	1
29	**214**	2
30	$\frac{1}{4}$	1
31	**7**	1
32	**146 227**	2
33	**456**	1
34	**45**	2
35	$\frac{5}{32}$	1
36	$1\frac{9}{10}$	1
		Total 40

English Answers Lesson 1:

1. The Prime Minister at the time of WW2 (Winston Churchill) speaking on the radio (wireless) – he would be the person to make such an important announcement like going to war.
2. They run to their friends door to see if their friends understand what is going on/ to see if they can explain what 'we are at war' means. For comfort/support and understanding.
3. Remember noun= person/place/thing so various answers: door,sister,wireless, radio, country, voice, night, bed, nursery, soldiers etc.
4. The author seems to feel scared/frightened/worried/anxious about the war – they think about the soldiers dying 'war meant blood' and 'war on that September Sunday made us feel frightened'.
5. Utterly
6. Lessons learnt and September Sunday
7. This poem is set at the start of the war because it begins with the radio announcement that Britain is at war, 'we are at war'. Also, it says that the country needs to be brave and 'there was much to do' highlighting that preparations had only just begun.

English Answers Lesson 2:

Task 1

1. On
2. Before
3. At
4. Due to
5. In Summer
6. Inside
7. Under
8. In honour of
9. Through
10. Across

Task 2

	Subordinating conjunction	Preposition
I ate desert after I had eaten my chips.	X	
No one is allowed in after 7 o'clock.		X
He watched it after his dinner.		X

	Subordinating conjunction	Preposition
I walked until I found a river.	X	
The flowers bloomed until the cold autumn weather.	X	
His shift doesn't end until the evening.		X

	Subordinating conjunction	Preposition
Nobody can leave before Wednesday.		X
It was taken before they saw it.	X	
Before she could shout, he had fallen over it.	X	

Task 3

You need to be there before bedtime

English Lesson 3:

Send your mind map of words that you have found to your teacher.

English Lesson 4:

Draft your build-up and send it to your teacher for feedback.

English Lesson 5:

Draft your dilemma and send it to your teacher for feedback.

Reading for Productivity Answers: Lesson 1 Music

1. Watching performances in music halls / the middle/upper class would buy sheet music to perform at home.
2. The radio had become popular.
3. 'Forces' Sweetheart'.
4. She was born in Germany.
5. Various, e.g. After the war is over, and peace is restored, it will stay that way and people will be happy / in love.
6. Various, e.g. In times of war, things were uncertain. People weren't sure when peace would be restored.

Reading for Productivity Answers: Lesson 2 Geography

1. Over 50,000 flower workers benefit from Fairtrade.

2. Kenya, Ethiopia, Tanzania, Uganda

3. The Fairtrade minimum wage means that farmers cannot be paid below a certain amount.

4. Fairtrade flower farmers must limit the amount of chemicals and pesticides they use on their farms.

5. Kenya

6.

Reading for Productivity Answers: Lesson 3 Science

1. Thermal energy
2. Kinetic friction
3. Fluid friction
4. When cars go too fast on puddles of water due to reduced friction
5. Lubricants, like grease and oil or using balls/wheels.
6. The roughness of the objects' surfaces and the force applied between the two objects

Reading for Productivity Answers: Lesson 5 Art

1. Bronze
2. Castleford, Yorkshire
3. He was injured at the Battle of Cambrai
4. The artist worked straight on material without using moulds. Marks left from carving tools can be seen on the material.
5. A range of different answers: To experience different cultures and their art styles which will influence his own work.
6. Although the artist may use shapes or colours that don't physically represent the subject, it is still possible to easily recognise what the art is portraying.
7. 4.9 metres wide and 2.4 metres high.
8. A range of different answers: To celebrate the many different achievements of Moore who is a British art legend, etc.
9. A range of different answers: It was a traumatising time in his life and he used his artwork as a way of expressing his thoughts and feelings at this time, etc.