## Y6

## Remote

## Learning

## ANSWER PACK

$22^{\text {nd }}-26^{\text {th }}$ February
2021

## Maths Answers Lesson 1



1）Scott builds a pattern using triangles and circles．

## 

a）Draw the next diagram in the pattern．

b）Scott records the number of triangles and circles in a table． Complete the table．

| Number of triangles | 1 | 2 | 3 | 4 | 5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number of circles | 3 | 6 | 9 | 12 | 15 |

c）$c=$ number of circles and $t=$ number of triangles Circle the formula that describes the pattern．

d）How many circles will there be with 10 triangles？
Show your working．
$\qquad$
$\qquad$


She records the number of squares and sticks in a table．
a）Continue the pattern and complete the table．

| Number of squares，$s$ | 1 | 2 | 3 | 4 | 5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number of lolly sticks，$l$ | 4 | 7 | 10 | 13 | 16 |

b）


Show that Eva is wrong．
How many sticks are needed to make 10 squares？
c）Circle the formula that describes the pattern．

$l=4 s+1$
$l=3(s+1)$
（2）a）Complete the table．

| Number of weeks | 1 | 2 | 3 | 5 | 10 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number of days | 7 | 14 | 21 | 35 | 70 |

b）Complete the formula to show the relationship between days（d） and weeks（ $w$ ）．
c）How many days are there in 32 weeks？
，

（3）
a）Write a formula for the area and perimeter of the rectangle．
 area $=a h$ perimeter $=2 a+2 b$ $\qquad$
b）Work out the area and perimeter of the rectangle if $a=17 \mathrm{~cm}$ and $b=8 \mathrm{~cm}$
Show your workings．

$$
\text { area }=136 \mathrm{~cm}^{2} \quad \text { perimeter }=50 \mathrm{~cm}
$$

4 a）Write a formula for the area and perimeter of the square．

area $=d^{2}$
perimeter $=\underline{\text { L．}}$ $\qquad$
b）Work out the area and perimeter of the square if $d=8.5 \mathrm{~cm}$ Show your workings．

$$
\text { area }=72.25 \mathrm{co} \quad \text { perimeter }=
$$

$\square$

6）Here are a dog walker＇s prices．

a）How much does the dog walker charge for a 2 －hour job？
b）Write a formula to show the cost（c）for（h）hours．
$\qquad$ $c=12 h+5$

7）The Wooden Letter Company sells wooden letters for $£ 2$ each， plus $£ 1.50$ for delivery of each order．

## 甩路边

a）Whitney places an order for the letters to spell out her name． How much does it cost？
b）Write a formula to show the cost（c）for the number of letters（ $n$ ）．

Red Answers
Varied Fluency
1a. $p=a+b+c$ is a formula; $36+56=72$ is a calculation.
2a. 40 cm 2
3a. $d=2 n$
4a. 30 children ( $6 \times 5=30$ )

## Reasoning and Problem Solving

1a. 10 cm
2a. Various answers, for example:
No; he would need to have 4 bags of flour in order to have enough, because $2 \times 2=4$.
3a.A. This shows 5 lots of water and 2 lots of bleach, which matches the formula.

## Gold Answers

## Varied Fluency

9a. $5(b-q)$ is an expression; $v=w \times h \times d$ is a formula; $a=\pi \times r_{2}$ is a formula; $72=(12 \times 3) \times 2$ is a calculation.
10a. 33cmz
11a. $a=2 n \times 0.45$
12a. 23 (92 $\div 22$ )

## Reasoning and Problem Solving

7a. 11cm
8a. Various answers, for example:
No; the puppy needs at least 64 minutes of exercise each day, because $8 \times 16=128 ; 128 \div 2=64$. $9 a$. A and C. B shows everything being divided by 2 , which will result in the incorrect height of the desk.

## Deepen the Moment

a. Area: $7 \times 1.6=11.2$ Perimeter: $2 \times 7+2 \times 1.6=17.2$
b. Area: $3 \times 9=27$ Perimeter: $2 \times 3+2 \times 9=24$
c. Area: $\mathbf{7 \times 6}=42$ Perimeter: $2 \times 7+2 \times 6=26$
d. Area: $3 \times 2.1=6.3$ Perimeter: $2 \times 3+2 \times 2.1=10.2$
e. Area: $1 / 4 \times 12=3$ Perimeter: $2 \times 1 / 4+2 \times 12=24.5$

## Maths Answers Lesson 2




Is there more than one possible equation for each?
4)

Draw a bar model to represent each equation.
a) $3 a=21$
c) $6+9=c$

b) $2 b+6=10$ d) $\frac{d}{2}=7$


Tommy and Rosie are thinking of a number each. Write an equation to represent each problem.

$\qquad$
Annie has a number trick.


Here is Annie's trick.
Step 1: think of a number
Step 2: double it
Step 3: add 10
Step 4: divide by 2
Step 5: take away the number
you first thought of
a) Pick a starting number and follow the steps. Did you get the answer 5?
b) Use multilink cubes and base 10 ones to represent each step of Annie's trick.
What do you notice?
c) Write an expression for each step of Annie's trick.

| $\frac{x}{2 x}$ |
| :--- |
| $\frac{2 x+10}{5}$ |

d) Create your own problem like this for a friend.

## Red Answers

Varied Fluency
1a. 3 and 8
2a. D
3a. $\boldsymbol{n} \div 9=4$. It should be -
4a. $p \div 3=2$

## Reasoning and Problem Solving

1a. Various answers, for example: $n-2=8$. Bessy had some crayons. She gave 2 of them to her friend. She had 8 crayons left.
$2 a$. Option C, as A and B both represent adding 4 to an unknown number. $C$ represents 4 being subtracted from an unknown number.
3a. Chris is correct as his answer shows addition. Elle's equation is $13-p=5$.

## Gold Answers

## Varied Fluency

9a. divide, 8, 9 and -6
10a. C
11a. $n+4=1$. It should be add 1 and the answer is 4 .
12a. $-3=0.25 n-10$

## Reasoning and Problem Solving

7a. Various answers, for example: 0.75n-14=-2. Leon has created an equation. He multiplies an unknown number by 0.75 and subtracts 14 . His answer is $\mathbf{- 2}$.
8a. Option $A$, as it represents $2.3-3=10$. $B$ and $C$ both represent $2 n+3=11$.
9a. Otis is correct as 0.5 is the same as $0.5 \times d$. Sophia's equation would be $-6=d \div 0.5-22$.

Deepen the Moment
$x+8=10$
$12-x=10$
$5 x=10$
$20 / x=10$

## Maths Answers Lesson 3

## Solve simple one-step equations

(1) Write an equation for each part-whole model.

Work out the value of the multilink cube in each equation.

b)


Maths


There are some counters under the cup.


There are 10 counters in total.
a) If $c$ is the number of counters under the cup, explain why
b) Work out the value of $c$.

4

3 Write algebraic equations to represent the bar models.


$$
c+6=10
$$

c) How many counters are under the cup? Find the value of $a$ in each one.

4. Nijah is solving the equation $x-8=20$

$$
\begin{aligned}
& x-8=20 \\
& x=20-8 \\
& x=12
\end{aligned}
$$

What mistake has Nijah made?
$\qquad$ $r=28$
7) Dexter builds a tower. Each block is $2 a$ high. He uses 7 blocks.


The total height of his tower is 42 cm .
Write an equation to represent the height of Dexter's tower and find the value of $a$.

$$
14 a=42
$$


(8)

Work out the value of each shape.
Write the equations that you solved to find the value of each shape.


Work out the missing total of each row and column. Compare answers with a partner.

Red Answers
Varied Fluency
1a. $11 a=33$
2a. A
3a. >, <
4a. $p=29 ; d=18 ; a=18$

## Reasoning and Problem Solving

1a. Jonah is incorrect because $2 n$ means $2 \times n=20$, so $n=10$.
$2 a$. Yes; $n=5$ so both cups should contain 5 counters.
3a.Various answers, for example:
$3 v=3 \times 6 ; 9+9=3 v ; 3 v=19-1$

## Gold Answers

Varied Fluency
9a. $a_{2}=30 \frac{1}{4}$
10a. C
11a. >, =
12a. $c=52 ; b=9 ; n=0.2$

## Reasoning and Problem Solving

7a. Graham is incorrect because $d_{2}$ means $d x d=1$, so $d=1$; he needs to multiply $d_{1}$ not add it.
8a. No; although Amina has correctly shown that $b=9$, she hasforgotten to add 3 counters to it (as shown in the equation) to create a total of 12.
9a. Various answers, for example:
$27.5 \times 2-1=d_{2+5}$;

## Deepen the Moment

Using the given heights of the sunflower $A$ and $B$, we can find the value of $x$ :
$x+25=73 \mathrm{~cm}$
$x=73-25$
$x=48 \mathrm{~cm}$

We can now find the height of sunflower D:
100-x=?
$100-48=52 \mathrm{~cm}$
Now that we know the height of sunflowers A, B and D, we can subtract these from the total height of 235 cm to find the height of sunflower $C$ :
$235 \mathrm{~cm}-198 \mathrm{~cm}=37 \mathrm{~cm}$
Sunflower C is 37 cm in height.

## Maths Answers Lesson 4


a) Write an equation for the part-whole model.
$2 a+4=20$
b) Solve the equation to work out the value of 000

## (90) $=8$

If each multilink cube represents $x$, form and solve an equation to find the value $x$.

(3) There is the same number of counters under each cup. There are 16 counters in total.

a) Use $y$ to represent the number of counters under each cup. Write an equation in terms of $y$.
$\qquad$
b) Solve the equation to find the value of $y$.

(4) Write an algebraic equation to represent each bar model. Find the values of $a$ and $b$.
a)


5)

Solve the equations.
a) $5 x+1=31$
d) $9=2 y+8$


$$
y=0.5
$$

b) $3 x-3=9$
e) $10 g-2=46$


$$
p=3.5
$$

$$
y=8
$$

6) Dani thinks of a number.

She doubles it and adds 3
She gets the answer 15
a) Write an equation to represent Dani's problem.
$2 x+3=15$
b) Solve the equation to find her number.

## Red Answers

## Varied Fluency

1a. True; False, $4 y+1=21$
2a. 10
$3 a$.


4a. $-4 ; \div 3$

## Reasoning and Problem Solving

1a. Various answers, for example:
$x+3=9 ; 21-2 x=9 ; 6 x \div 4=9$
2a. Various answers, for example: if $y=4$, then $2 y-1=7$; if $y=5$ then, $2 y-3=7$, if $y=6$, then 2y-5 = 7 .
3a. Mia is correct because you can take 5 away from both sides, leaving $2 x+1=19$; 19-1 = 18 and $18 \div 2=9$.

## Gold Answers

## Varied Fluency

9a. True; False, $3 y \div y=3$; False, $7-z=3$
10a. 60
11a.


12a. $-6.3, \div 28$
Reasoning and Problem Solving
7a. Various answers, for example:
$10 x-2.5=-0.5 ; 5 x \times 1.5=1.5 ;-0.5+10 x=1.5$
8a. Various answers, for example: Calculation A: if $y=3.25,14 y \div 7=6.5 ; 12 y \div 6=6.5 ; 10 y \div 5$ = 6.5; Calculation B: $2 y-9=-2.5 ; 3 y-12.25=-2.5 ; 4 y-15.5=$
-2.5
9a. Priya is correct because $21 \times 0.5=10.5$ and $10.5-11.5=-1$. Alex is incorrect because subtracting a decimal number does not mean you cannot get a whole number for the answer.

## Deepen the Moment

Using the given lengths of pencil $A$ and $B$, we can find the value of $x$ :
$5 x+4=34 \mathrm{~cm}$
$5 x=34-4$
$5 x=30 \mathrm{~cm}$
$x=30 / 5$
$x=6 \mathrm{~cm}$

Now that we know the value of $x$, we can find the length of pencil $D$ :
$4 x+25=?$
$(4 \times 6)+25=49 \mathrm{~cm}$

Now that we know the lengths of pencils A, B and D $(34+34+49=117)$, we can subtract these from the total length of 139 cm to find the length of pencil $C$ :
$139 \mathrm{~cm}-117 \mathrm{~cm}=22 \mathrm{~cm}$

Pencil C is 22 cm long

Maths Answers Lesson 5 (twinkl Arithmetic Paper 3)

|  | Question | Answer | Mark | Additional Guidance |
| :---: | :---: | :---: | :---: | :---: |
| 1 | $37+749$ | 786 | 1 m |  |
| 2 | $\frac{6}{7}-\frac{2}{7}$ | $\frac{4}{7}$ | 1 m | Accept equivalent fractions or an exact decimal equivalent (accept any unambiguous indication of the recurring digits). Do not accept rounded or truncated decimals. |
| 3 | $2 \times 35$ | 70 | 1 m |  |
| 4 | $908 \div 1$ | 908 | 1 m |  |
| 5 | $55 \div 11$ | 5 | 1 m |  |
| 6 | $8 \times 3 \times 10$ | 240 | 1 m |  |
| 7 | 7,015-403 | 6,612 | 1 m |  |
| 8 | 10-3 ${ }^{2}$ | 1 | 1 m |  |
| 9 | $39.55+8.7$ | 48.25 | 1 m |  |
| 10 | ? $-20=286$ | 306 | 1 m |  |
| 11 | $320 \div 4$ | 80 | 1 m |  |
| 12 | $8,100 \div 9$ | 900 | 1 m |  |
| 13 | $90 \div 30$ | 3 | 1 m |  |
| 14 | $?=2,863-457$ | 2,406 | 1 m |  |
| 15 | $\begin{aligned} & 3,700,009= \\ & 3,000,000+?+9 \end{aligned}$ | 700,000 | 1 m |  |
| 16 | 10-5.9 | 4.1 | 1 m |  |
| 17 | $\frac{2}{7}+\frac{15}{28}$ | $\frac{23}{28}$ | 1 m | Accept equivalent fractions or an exact decimal equivalent (accept any unambiguous indication of the recurring digits). Do not accept rounded or truncated decimals. |
| 18 | $0.7 \div 100$ | 0.007 | 1 m | Accept equivalent fractions. |
| 19 | $\frac{3}{4} \text { of } 1,600$ | 1,200 | 1 m |  |
| 20 | $528 \times 26$ | 13,728 | 2 m | Working must be carried through to reach a final answer for the award of ONE mark. <br> Do not award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens. |
| 21 | 15\% of 1,300 | 195 | 1 m | Donotaccept answers with the percentagesymbol |


|  | Question | Answer | Mark | Additional Guidance |
| :---: | :---: | :---: | :---: | :---: |
| 22 | $874 \div 46$ | 19 | 2 m | Working must be carried through to reach a final answer for the award of ONE mark. Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm and be a complete method. The carrying figure must be less than the divisor. |
| 23 | $0.2 \times 35$ | 7 | 1 m |  |
| 24 | $\frac{2}{3}+\frac{1}{4}$ | $\frac{11}{12}$ | 1 m | Accept equivalent fractions or the exact decimal equivalent. |
| 25 | $1 \frac{5}{8}+\frac{1}{2}$ | $2 \frac{1}{8}$ | 1m | Accept equivalent mixed numbers, fractions or the exact decimal equivalent. |
| 26 | 8-7.109 | 0.891 | 1 m |  |
| 27 | $3.7 \times 70$ | 259 | 1m |  |
| 28 | $1 \frac{1}{6}-\frac{7}{12}$ | $\frac{7}{12}$ | 1 m | Accept equivalent fractions or an exact decimal equivalent (accept any unambiguous indication of the recurring digits). Do not accept rounded or truncated decimals. |
| 29 | 6,926 $\times 64$ | 443,264 | 2m | Working must be carried through to reach a final answer for the award of ONE mark. <br> Do not award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens. |
| 30 | 99\% of 600 | 594 | 1 m | Donotaccept answers with the percentagesymbol |
| 31 | $\frac{1}{4} \div 3$ | $\frac{1}{12}$ | 1 m | Accept equivalent fractions or the exact decimal equivalent. |
| 32 | $5 \times 7-4^{2}$ | 19 | 1 m |  |
| 33 | $1 \frac{1}{3} \times 30$ | 40 | 1 m | Do not accept unsimplified equivalent fractions. |
| 34 | 62\% of 340 | 210.8 | 1m | Donotaccept answers with the percentagesymbol |
| 35 | $5 \frac{5}{6}-3 \frac{3}{4}$ | $2 \frac{1}{12}$ | 1 m | Accept equivalent mixed numbers, fractions or an exact decimal equivalent (accept any unambiguous indication of the recurring digits). Do not accept rounded or truncated decimals. |
| 36 | $6,916 \div 76$ | 91 | 2m | Working must be carried through to reach a final answer for the award of ONE mark. Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm and be a complete method. The carrying figure must be less than the divisor. |

## English Answers Lesson 1:

1. Early morning/before sunrise, because it says in the text it was still dark.
2. She is referring to the people who have been bombed in Battersea and feels sympathy for them.
3. It suggests that many people were dying and it was not an unusual incident.
4. He could see that he was not alone in feeling miserable or sad.
5. Disagree. It says in the text they pushed and jostled in the carriage. Other evidence acceptable.
6. Any answer which suggests an emotion and supports it with relevant information from the text. For example: Upset, because it says in the text, 'He blinked back the tears that had gathered in his eyes and wiped hisface before turning towards the station.' Anxious/nervous/unsure, because it says in the text, 'David watched the last Highbury and Islington sign as long as he could, craning his neck until the carriage plunged into the darkness of the tunnel and it was gone.'

## English Answers Lesson 2:

|  | Embedded | Relative |
| :--- | :---: | :---: |
| Reece, even though he hated films, still went to the cinema. | X |  |
| The crocodile, which had been lurking under the water, <br> pounced on its prey. |  | X |
| The Eiffel Tower, which is one of the most famous landmarks, <br> in the world, is in Paris. | X |  |
| The boy, as fast as he pedalled, could not catch up with his <br> friends. | X |  |
| Liverpool FC, who are the current Premiership champions, are <br> struggling this year. | X |  |

Lesson 3:
(Send a list of facts that you have found to your teacher)

## English Answers Lesson 4:



## Lesson 5:

(Draft your opening and send it to your teacher for feedback)

## Reading for Productivity Answers: Lesson 1 Geography

1. ...they will simply remain indefinitely until removed by humans...

Which of these is the most accurate definition for the word indefinitely? Tick one.globally problematic
(D) for the foreseeable future

- restricted from view

O negatively impactful
2. Match the sub-heading to the best summary of its contents.

3. ...and could be endangering the existence of some of our much-loved species. Define the word endangering based on its use in this sentence. Pupils' own responses, such as: Endangering means putting something at risk or in danger.
4. What percentage of plastic produced over the last 70 years has been thrown away? $\mathbf{7 9 \%}$ of plastic produced over the last 70 years has been thrown away.
5. Which creature may birds mistake plastic bags for?

Birds may mistake plastic bags for fish.
6. Fully explain how plastic pollution endangers Britain's wildlife.

Pupils' own responses, such as: Plastic pollution can harm wildlife because creatures may become tangled in waste, eat the plastic by mistake and become poisoned by the chemicals in the plastic.
7. Plastic pollution is a global problem. Propose three steps which could be taken globally to reduce plastic pollution.
Pupils' own responses, such as: All single-use plastic items, such as straws and cutlery, could be banned globally. They could remove the use of plastic items and bottles from all international flights. Also, world leaders could meet to discuss measures to reduce plastic production and promote recycling.
8. Summarise what is meant by microplastics in 15 words or less.

Pupils' own responses, such as: Microplastics are tiny pieces of plastic that have been broken down from larger pieces.
9. Comment on one change you have already made and one change you will make in the future in order to reduce plastic pollution.
Pupils' own responses, such as: One change I have already made is that I have started refilling a water bottle instead of buying more bottled water. One change I will make in the future is that I will take my own bag to the supermarket instead of buying more plastic carrier bags.
10. Summarise the purpose of this text and its intended audience.

Pupils' own responses, such as: I think that this text is intended for a young audience, especially children who are interested in wildlife and the environment. Its purpose is to inform them of the hazards of plastic pollution and to help them to make changes for the better to help the environment.

## Reading for Productivity Answers: Lesson 2 R.E

1) What will happen to those who have lived good lives and believed in God? They will have a place in heaven?
2) Where will the Son of Man sit? On his glorious throne.
3) Which of these is closest in meaning to the eternal fire?

Heaven Hell Earth Jerusalem
4) According to the text, what are goats like? They are stubborn and resist being told what to do.
5) What do you think is meant by 'The kingdom prepared for you since the creation of the world.' The kingdom of Heaven.
6) Answer these true or false questions.
a) The sheep are put on the right and the goats on the left. T
b) The sheep will go to Hell. F
c) The Goats are the ones that helped others in their lives. F
d) In the story, it is better to be a sheep than a goat. T
7) Why are God's people often described as sheep? Because sheep listen to their shepherd and follow him.
8) What are the similarities between God and a shepherd? E.g. A shepherd looks after his sheep as God looks after the faithful.

## SEND Answers

1) Which of these words is closest in meaning to parable? Story
2) In the story, the goats will go to heaven. False
3) What things does Jesus say people should offer to one another?

Food, drink, shelter and clothes,
4) According to the text, what are goats like? Stubborn
5) What is the story about? Judgement

## Reading for Productivity Answers: Lesson 3 D.T

1. What was the first item to be rationed in WW2? Petrol
2. Which food types were exempt from rationing? Bread
3. Why was rationing introduced? Rationing was introduced to make sure that everyone had a fair share of the items that were hard to get hold of during the war
4. How long did rationing in the UK last for? 14 year
5. What was the final item to be rationed in 1954? Meat
6. What is a commodity? A product / the goods
7. Find and copy a phrase which means to increase the price. inflated
8. What colour book did pregnant women have? How was their ration different from others? Green ration books. Pregnant women, nursing mothers, and children under 5. They had first choice of fruit, a daily pint of milk and a double supply of eggs.

## Reading for Productivity Answers: Lesson 4 Science

1) What does the word drag mean?

Drag is when friction is used to slow things down that are moving through water.
2) Which word describes how the particles make contact?

## Collide

3) How does the density of the water affect the movement of an object in water?

The more dense the water, the greater the drag force.
4) Why do you think that water resistance increases if your body is completely submerged in the water?

It increases because moving through air resistance allows a better speed of movement than water resistance.
5) Why do penguins find it easy to swim through the water?

Penguins are able to glide through the water with little water resistance because they are slim and have bullet-shaped bodies.
6) Name another animal which is able to glide through the water with little water resistance. Explain why this is.
Various answers, the refer to the streamlined shape of the body.

Reading for Productivity Answers: Lesson 5 Computing

1-1955-2011
2 - For his time as chairman and co-founder of Apple
3 - A pioneer of the computer revolution of the 1970s and 1980s
4 - In 1974 / Seeking enlightenment and studying Buddhism
5 - Jobs co-founded Apple in 1976 with Steve Wozniak / Released Apple II computer / In 1984 released Macintosh computer (any 2 for 2 marks)

6 - A long power struggle with the company's board
7 - NeXT \& Pixar
8 - Because NeXT merged with Apple in 1997
9 - The iMac, iTunes, the iPod, the iPhone and the iPad
10 - A pancreatic neuroendocrine tumor 11 - From factors relating to the tumor at the age of 56

