DR BAKER'S YEAR 5 MATHS
WEDNESDAY 25TH MARCH

WELCOME TO DAY 3

“Morning. The answers to the times tables from yesterday are here. It is a really good chance for you to work on your times tables while you are off. If you struggled with these try and remember the ones you found hard for next time.”

1. 5 x 9 = 45
2. 2 x 8 = 16
3. 10 x 11 = 110
4. 6 x 3 = 18
5. 4 x 8 = 32
6. 3 x 7 = 21
7. 7 x 8 = 56
8. 4 x 7 = 28
9. 12 x 6 = 72
10. 9 x 3 = 27
11. 7 x 11 = 77
12. 12 x 12 = 144
13. 8 x 6 = 48
14. 10 x 12 = 120
15. 3 x 3 = 9

TODAY'S PROBLEM QUESTIONS -

- **EASIER QUESTION**

Write the missing numbers in this question

$$\begin{array}{r} 1253 \\ +4?8 \\ \hline 168? \end{array}$$

- **HARDER QUESTION**

Write the missing number in this question

$$\begin{array}{r} 356 \\ \times\ ? \\ \hline 1068 \end{array}$$

TASKS FOR TODAY

L.O. To recognise and use square and cube numbers

If you have forgotten what square and cube numbers are re-watch the video on https://www.bbc.co.uk/bitesize/topics/zyhs7p3/articles/z2ndsrd

Remember a cube number is a number multiplied by itself and then by itself again.

First write out all the cube numbers from 1 to 5

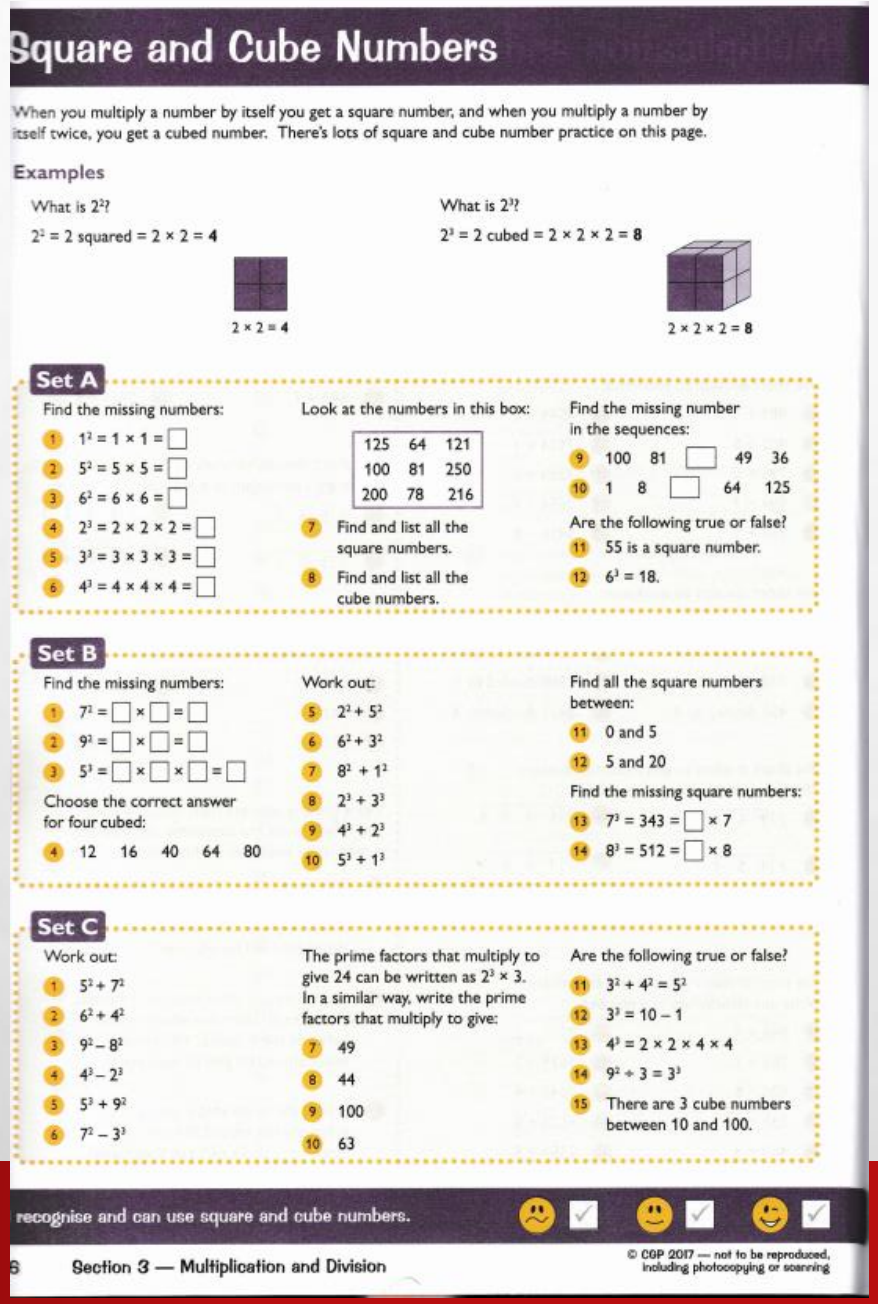
e.g. $1^3 = 1 \times 1 \times 1 =$

$2^3 = 2 \times 2 \times 2 =$ etc.

If you are feeling keen you could even do them all the way up to 12. You may have to use long multiplication (or look them up or use a calculator) for the more difficult ones but do as many as you can in your head.

Then do the work on the following slide. Answers are at the end. Mark as you go. There is also a game if you have a printer or are good at copying.

If all of this work is too hard for you and you have Number Textbook 2 try Pages 66 and 67 about odd and even numbers instead.



Square and Cube Numbers

When you multiply a number by itself you get a square number, and when you multiply a number by itself twice, you get a cubed number. There's lots of square and cube number practice on this page.

Examples

What is 2^2?

2^2 = 2 squared = 2 × 2 = **4**

2 × 2 = 4

What is 2^3?

2^3 = 2 cubed = 2 × 2 × 2 = **8**

2 × 2 × 2 = 8

Set A

Find the missing numbers:

1. $1^2 = 1 \times 1 = \square$
2. $5^2 = 5 \times 5 = \square$
3. $6^2 = 6 \times 6 = \square$
4. $2^3 = 2 \times 2 \times 2 = \square$
5. $3^3 = 3 \times 3 \times 3 = \square$
6. $4^3 = 4 \times 4 \times 4 = \square$

Look at the numbers in this box:

125	64	121
100	81	250
200	78	216

7. Find and list all the square numbers.
8. Find and list all the cube numbers.

Find the missing number in the sequences:

9. 100 81 ☐ 49 36
10. 1 8 ☐ 64 125

Are the following true or false?

11. 55 is a square number.
12. $6^3 = 18$.

Set B

Find the missing numbers:

1. $7^2 = \square \times \square = \square$
2. $9^2 = \square \times \square = \square$
3. $5^3 = \square \times \square \times \square = \square$

Choose the correct answer for four cubed:

4. 12 16 40 64 80

Work out:

5. $2^2 + 5^2$
6. $6^2 + 3^2$
7. $8^2 + 1^2$
8. $2^3 + 3^3$
9. $4^3 + 2^3$
10. $5^3 + 1^3$

Find all the square numbers between:

11. 0 and 5
12. 5 and 20

Find the missing square numbers:

13. $7^2 = 343 = \square \times 7$
14. $8^2 = 512 = \square \times 8$

Set C

Work out:

1. $5^2 + 7^2$
2. $6^2 + 4^2$
3. $9^2 - 8^2$
4. $4^3 - 2^3$
5. $5^3 + 9^2$
6. $7^2 - 3^3$

The prime factors that multiply to give 24 can be written as $2^3 \times 3$. In a similar way, write the prime factors that multiply to give:

7. 49
8. 44
9. 100
10. 63

Are the following true or false?

11. $3^2 + 4^2 = 5^2$
12. $3^3 = 10 - 1$
13. $4^3 = 2 \times 2 \times 4 \times 4$
14. $9^2 \div 3 = 3^3$
15. There are 3 cube numbers between 10 and 100.

recognise and can use square and cube numbers.

Hint for Set C. In questions 7 – 10 think about what you would multiply together to get these numbers and then try to break those numbers down until you are just left with prime number e.g.

36 = 3 x 12 (3 is prime so I just split 12)

12 = 3 x 4

So 36 = 3 x 3 x 4(3 is prime so I split 4)

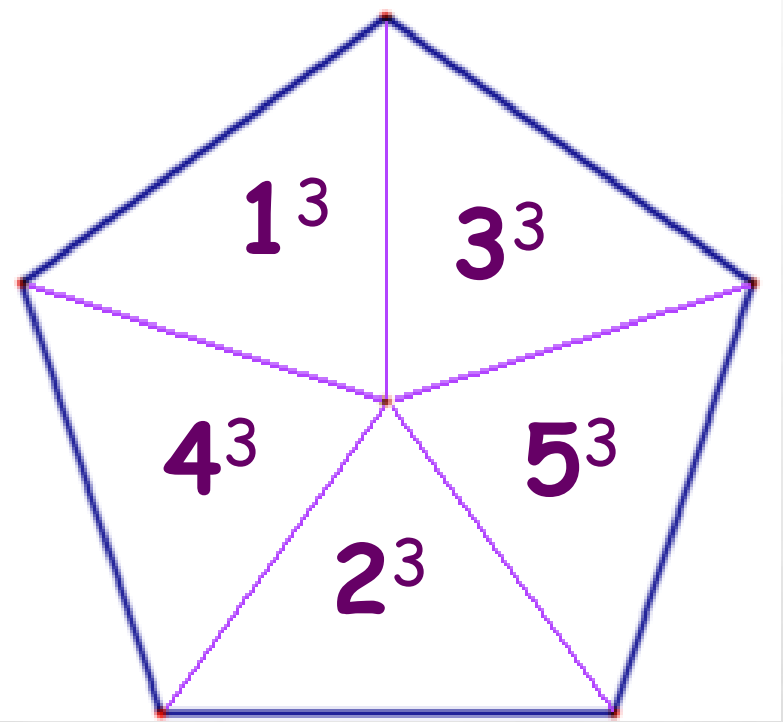
4 = 2 x 2

So 36 = 3 x 3 x 2 x 2 = $2^2 \times 3^2$

In fact every number in the world can be split into primes in this way (it is called a product of primes)

IF YOU HAVE ACCESS TO A PRINTER OR ARE GOOD AT COPYING FROM THE SCREEN YOU COULD PLAY THIS GAME

1	27	8	64
125	64	1	27
64	8	125	5
27	1	64	8
8	27	64	1
125	8	27	64
1	125	8	27
64	125	1	125



Game 1 - Spin the spinner to identify a Cube Number.
Find a number on the grid matching the value of the Cube Number.
Cover with a counter.
The first to four in a line wins.

Game 2 – Cover all the numbers on the grid with a counter.
Spin the spinner to identify a cube number.
Each player chooses to remove a counter to reveal a value..
If a player's value is **more** than the cube number on the spinner they keep their counter.
If their value is **less** than that on the spinner they must put it back.
First to collect 5 counters wins

ANSWERS

A

1.1

2. 25

3. 36

4. 8

5. 27

6. 64

7. 100, 64, 81, 121

8. 125, 64, 216

9. 64

10. 27

11. False

12. False

B

1. $7 \times 7 = 49$

2. $9 \times 9 = 81$

3. $5 \times 5 \times 5 = 125$

4. 64

5. 29

6. 45

7. 65

8. 35

9. 72

10. 126

11. 1,4

12. 9, 16

13. $7^2 = 49$

14. $8^2 = 64$

C

1.74

2. 52

3. 17

4. 56

5. 206

6. 22

7. 7×7

8. $2^2 \times 11$

9. $2^2 \times 5^2$

10. $3^2 \times 7$

11. True

12. True

13. True

14. True

15. False, there are only two.