End of Year Maths Assessment

Year 3

This resource corresponds with the New National Curriculum objectives for Year 3, and has been designed to be used as an aide in assessing pupils' mathematical knowledge at the end of Year 3.

This assessment can be used to assist teachers with end of year ability levelling, planning/assessment and as an ideal support tool for parents' evenings/progress meetings etc.

The content addresses each curricular objective outlined in the New National Curriculum in chronological order to give insight into strengths or gaps in each child's mathematical knowledge.

More Assessment resources.

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Year 3 National Curriculum Objectives:

Number – number and place value
1. (3N1b) <u>Count from 0 in multiples of 4, 8, 50 and 100</u>

4. (3N2a) <u>Compare and order numbers up to 1000</u>

5 & 6. (3N2a) <u>Read and write numbers up to 1000 in numerals and in words</u>

2. (3N2b) <u>Find 10 or 100 more or less than a given number</u>

3. (3N3) <u>Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</u>

7. (3N4) <u>Identify, represent and estimate numbers using different representations</u>

1, 2, 3, 4, 5, 6 & 7. (3N6) <u>Solve number problems and practical problems involving 3N1 - 3N4</u>

Number – addition and subtraction
(3C1) <u>Add and subtract numbers mentally, including</u>

8. <u>three-digit number and ones</u>

9. <u>three-digit number and tens</u>

10. <u>three-digit number and hundreds</u>

11 & 12. (3C2) <u>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</u>

13. (3C3) <u>Estimate the answer to a calculation and use inverse operations to check answers</u>

14. (3C4) <u>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</u>

Number – multiplication and division
15. (3C6) <u>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</u>

16 & 17. (3C7) <u>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</u>

18. (3C8) <u>Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects</u>

Year 3 National Curriculum Objectives:

Number – fractions
19. (3F1a) Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

20. (3F1b) Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

21. (3F1c) Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators

22. (3F2) Recognise and show, using diagrams, equivalent fractions with small denominators

24 & 25. (3F3) Compare and order unit fractions, and fractions with the same denominators

23. (3F4) Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]

26. (3F10) Solve problems that involve 3F1 - 3F4

Measurement
27. (3M1a) Compare lengths (m/cm/mm)

27. (3M1b) Compare mass (kg/g)

27. (3M1c) Compare volume/capacity (l/ml)

* (3M2a) Measure lengths (m/cm/mm)

* (3M2b) Measure mass (kg/g)

* (3M2c) Measure volume/capacity (l/ml)

32. (3M4a) Tell and write the time from an analogue clock; 12-hour clocks

32. (3M4b) Tell and write the time from an analogue clock; 24-hour clocks

32. (3M4c) Tell and write the time from an analogue clock, including using Roman numerals from I to XII

31, 34 & 35. (3M4d) Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight

33. (3M4e) Know the number of seconds in a minute and the number of days in each month, year and leap year

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Year 3 National Curriculum Objectives:

Measurement (continued)
36. (3M4f) Compare durations of events [for example to calculate the time taken by particular events or tasks]

29. (3M7) Measure the perimeter of simple 2-D shapes

30. (3M9a) Add and subtract amounts of money to give change, using both £ and p in practical contexts

28. (3M9b) Add and subtract lengths (m/ cm/ mm)

28. (3M9c) Add and subtract mass (kg/ g)

28. (3M9d) Add and subtract volume/ capacity (l/ ml)

Geometry – properties of shapes
42. (3G2) Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

37. (3G3a) Draw 2-D shapes

38. (3G3b) Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

* (3G4a) Recognise that angles are a property of shape or a description of a turn

39, 40 & 41. (3G4b) Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle

Statistics
43. (3S1) Interpret and present data using bar charts, pictograms and tables

44. (3S2) Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

Number and Place Value

1. Complete each sequence of numbers.

0	50	100	150						
0	4	8	12						
0	100	200	300						
0	8	16	24						

2. Find the following:

10 more than 735 ☐ 100 less than 874 ☐ 100 more than 395 ☐

100 less than 630 ☐ 10 more than 206 ☐ 10 less than 708 ☐

3. Write the value of each underlined digit.

4_9_2 _____   1_0_3 _____   38_6_ _____

2_2_7 _____   _8_02 _____   84_9_ _____

4. Use the symbols > or < to compare the numbers.

395 ☐ 539   268 ☐ 682   110 ☐ 101

Put the following numbers in order from greatest to least:

390   204   310   932   526   635   309   240

5. Write the following numbers in words.

237 _____   508 _____

6. Write the following numbers as numerals:

Eight hundred and seventy _____   Two hundred and sixty-one _____

7. Estimate the number of straws there are in total: ☐

Addition and Subtraction

8. Solve the following problems mentally:

806 + 6 = [ ]   498 – 9 = [ ]

396 – 7 = [ ]   598 + 8 = [ ]

9. Solve the following problems mentally:

768 + 20 = [ ]   193 – 50 = [ ]

552 – 70 = [ ]   629 + 60 = [ ]

10. Solve the following problems mentally:

496 + 300 = [ ]   890 – 400 = [ ]

622 – 200 = [ ]   712 + 100 = [ ]

11. 486 + 208 =

12. 769 – 195 =

13. Estimate the answer:

$510 +$ [ ] $= 618$

Now use the inverse calculation to check your answer.

14. Find the missing numbers.

$830 +$ [ ] $= 1,000$

[ ] $- 528 = 285$

Multiplication and Division

15. Complete the multiplication and division facts for 3, 4 and 8.

7 x 4 = ☐   36 ÷ 3 = ☐   3 x 6 = ☐   8 x 5 = ☐   8 x 9 = ☐

11 x 8 = ☐   3 x 12 = ☐   4 x 8 = ☐   24 ÷ 4 = ☐   32 ÷ 8 = ☐

36 ÷ 4 = ☐   11 x 4 = ☐   27 ÷ 3 = ☐   12 x 8 = ☐   6 x 6 = ☐

16. Teddy pays £2 for an ice cream. How much would 8 ice creams cost?

17. Amir pays £12 for a football shirt. How much would 5 shirts cost?

18. Charlotte wants to buy sweets for her class. There are 28 students in her class and 10 sweets in each bag. How many bags should she buy so each child gets 1 sweet?

End of Year Maths Assessment – Year 3 – Multiplication and Division

Fractions

19. Complete the sequences.

$$\frac{9}{10} \quad \frac{8}{10} \quad \frac{7}{10} \quad \frac{6}{10}$$ ☐ ☐ ☐ ☐
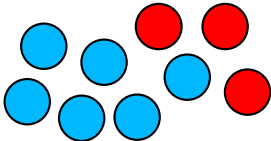
$$\frac{1}{10} \quad \frac{2}{10} \quad \frac{3}{10} \quad \frac{4}{10}$$ ☐ ☐ ☐ ☐

20. Write a fraction to represent the number of red circles and the number of blue circles.

red ☐   blue ☐

21. Calculate the fraction of each number.

$\dfrac{1}{5}$ of 30 = ☐ $\dfrac{2}{4}$ of 24 = ☐

$\dfrac{2}{3}$ of 18 = ☐ $\dfrac{2}{5}$ of 15 = ☐

22. Shade the shapes to show three fractions that are equivalent to $\dfrac{2}{3}$.

23. Complete the calculations.

$$\frac{6}{9} - \frac{2}{9} = \boxed{} \qquad \frac{4}{6} + \frac{1}{6} = \boxed{}$$

$$\frac{7}{10} - \frac{4}{10} = \boxed{} \qquad \frac{1}{5} + \frac{1}{5} = \boxed{}$$

24. Order the fractions from largest to smallest.

$$\frac{1}{3} \qquad \frac{1}{8} \qquad \frac{1}{6} \qquad \frac{1}{2} \qquad \frac{1}{7} \qquad \frac{1}{12} \qquad \frac{1}{4} \qquad \frac{1}{10}$$

25. Order the fractions from smallest to largest.

$$\frac{3}{8} \qquad \frac{7}{8} \qquad \frac{2}{8} \qquad \frac{1}{8} \qquad \frac{6}{8} \qquad \frac{8}{8} \qquad \frac{5}{8} \qquad \frac{4}{8}$$

26. Leanora is sharing a pie with 5 of her friends. How many slices must she cut so everyone can have two slices?
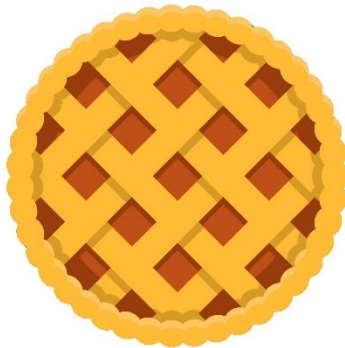
Leanora needs to cut $\boxed{}$ slices for everyone to have two.

How much of the whole pie will each child get? Write as a fraction. $\boxed{}$

Measurement

27. Use the <, > or = symbols to compare the following:

1l [ ] 1000ml   875g [ ] 892g

913kg [ ] 917kg   20cm [ ] 202mm

10mm [ ] 1cm   858ml [ ] 848ml

96l [ ] 95l   99cm [ ] 1m

28. Complete the following calculations.

1l + 450ml = [ ]   1cm – 4mm = [ ]

47m – 39m = [ ]   600g + 400g = [ ]

750ml + 750ml = [ ]   4cm – 30mm = [ ]

50kg – 38kg = [ ]   8m + 100cm = [ ]

29. Each square is 1cm long and 1cm tall. Measure the perimeter of the rectangles.
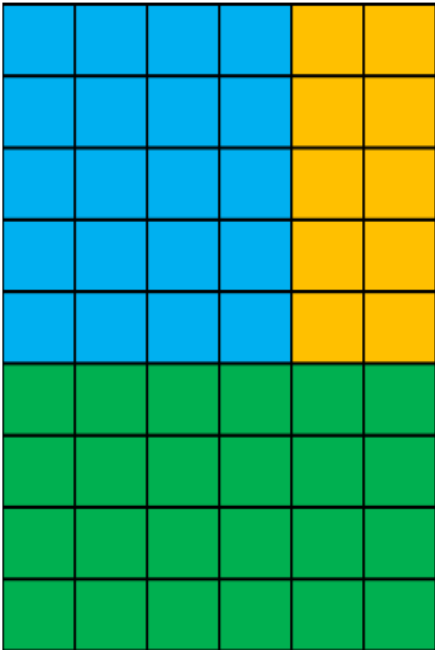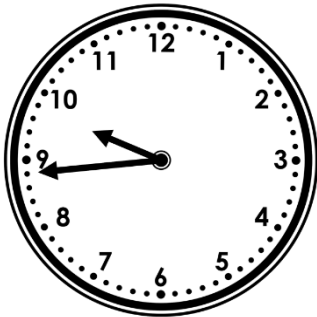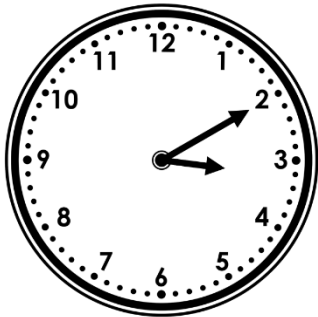
orange rectangle [ ]

green rectangle [ ]

blue rectangle [ ]

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End of Year Maths Assessment – Year 3 – Measurement 1

30. Find the total cost of the items listed:

orange juice	£0.70
bread	£1.50
apples	£0.60
milk	£1.20
cheese	£0.50
Total:	

How much change would you receive from a ten pound note?

31. What time does each clock read?
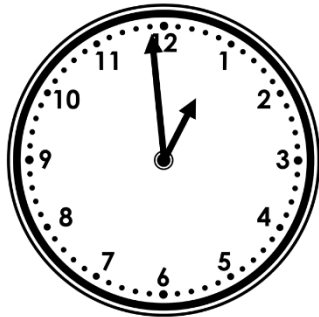
32. Draw hands on the clocks to show the following times:

7:26	18:11	23:04

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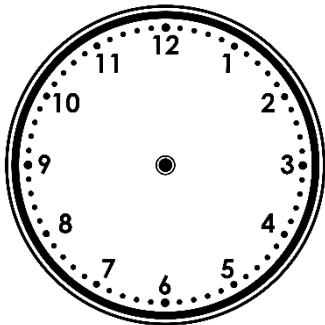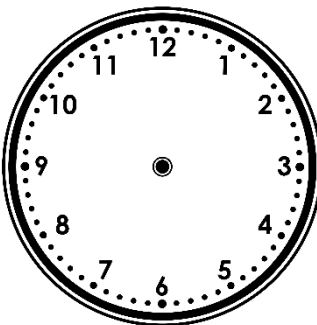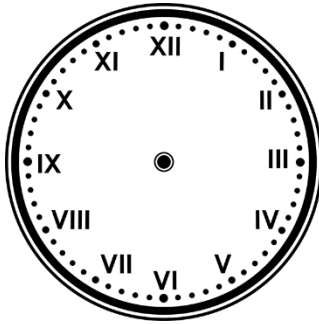
33. How many seconds are in one minute? [ ]

How many days are in the following months?

| January | [ ] | June | [ ] | February | [ ] |

| November | [ ] | December | [ ] | May | [ ] |

How many days are in a year? [ ]   How many days are in a leap year? [ ]

34. Are the following times in the morning or afternoon?

	morning	afternoon
4:06 PM		
07:00		
21:35		

	morning	afternoon
11:07		
3:15 AM		
12:04		

35. Emma looks at her watch in the morning. The hour hand points between 7 and 8 and the minute hand points at 6. How would you show this time on a 24 hour clock?

[ ]

Jonas looks at a clock before he goes to bed. The hour hand points at 9 and the minute hand points at 12. How would you show this time on a 24 hour clock?

[ ]

36. Use the <, > or = symbols to compare the following lengths of time:

1:00pm to 5:30pm [ ] 8:30pm to 9:30pm

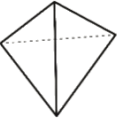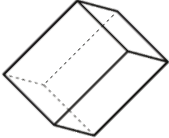7:30am to 12:00pm [ ] 5:00am to 11:00am
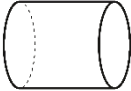
12:30pm to 3:00pm [ ] 4:00pm to 6:30pm

2:15pm to 5:30pm [ ] 4:00am to 7:30am

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Geometry

37. Draw the following 2D shapes below their names.

circle	hexagon	pentagon	rectangle	triangle	square

38. Fill in the table with the properties of the 3D shapes.

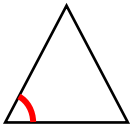|				
Name of shape				
edges				
vertices				
faces				

39. Circle the right angle.

A   B   C
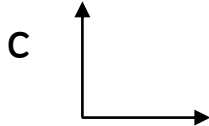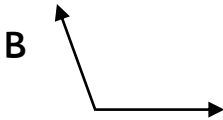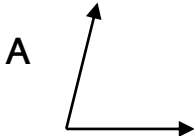
40.   How many right angles make a half turn?

How many right angles make a whole turn?
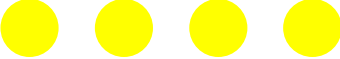
41.   Are the following angles greater than or less than a right angle?

42.   Draw a pair of each of the following:

vertical parallel lines	horizontal parallel lines	perpendicular lines

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Statistics

43. Draw a bar chart that displays the information from the pictogram.

Animal	Votes (1 circle = 3 votes)
Dog	🟠 🟠 🟠 🟠 🟠
Cat	🟢 🟢 🟢
Horse	🔵 🔵
Giraffe	🟡 🟡 🟡 🟡

44. What is the most popular animal?

    How many more people like dogs than horses?

    How many fewer people voted for cats than dogs?

    How many people voted in total?

Number and Place Value

1. 200, 250, 300, 350, 400, 450
    16, 20, 24, 28, 32, 36
    400, 500, 600, 700, 800, 900
    32, 40, 48, 56, 64, 72

2. 745   774   495
    530   216   698

3. 4 hundreds   0 tens   6 ones
    2 tens   8 hundreds   9 ones

4. <, <, >

    932, 635, 526, 390, 310, 309, 240, 204

5. two hundred and thirty-seven   five hundred and eight
    three hundred and seventy-three   seven hundred and ten

6. 35 would be a reasonable estimate (3 bunches of 10 plus 5 loose). There are actually 3 bunches of 8 plus five loose (29).

7. 870   261

Addition and Subtraction

8. 812   489
    389   606

9. 788   143
    482   689

10. 796   490
    422   812

11. 694

12. 574

13. Estimate around 100 (500 + 100 = 600); actual answer is 108

14. 170
    813

Multiplication and Division

15.

7 x 4 = **28**	36 ÷ 3 = **12**	3 x 6 = **18**	8 x 5 = **40**	8 x 9 = **72**
11 x 8 = **88**	3 x 12 = **36**	4 x 8 = **32**	24 ÷ 4 = **6**	32 ÷ 8 = **4**
36 ÷ 4 = **9**	11 x 4 = **44**	27 ÷ 3 = **9**	12 x 8 = **96**	6 x 6 = **36**

16. £2 x 8 = £16

17. £12 x 5 = £60

18. 3 bags of sweets

Fractions

19.

$$\frac{5}{10} \qquad \frac{4}{10} \qquad \frac{3}{10} \qquad \frac{2}{10}$$

$$\frac{5}{10} \qquad \frac{6}{10} \qquad \frac{7}{10} \qquad \frac{8}{10}$$

20. Red: $\dfrac{3}{9}$ Blue: $\dfrac{6}{9}$

21.

6   12

12   6

22.

 $\dfrac{4}{6}$

 $\dfrac{6}{9}$

 $\dfrac{8}{12}$
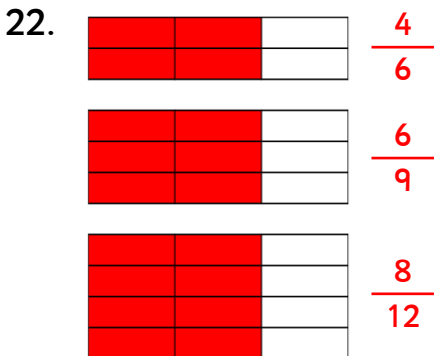
23.

$$\frac{4}{9} \qquad \frac{5}{6}$$

$$\frac{3}{10} \qquad \frac{2}{5}$$

24. $\dfrac{1}{2}$ $\dfrac{1}{3}$ $\dfrac{1}{4}$ $\dfrac{1}{6}$ $\dfrac{1}{7}$ $\dfrac{1}{8}$ $\dfrac{1}{10}$ $\dfrac{1}{12}$

25. $\dfrac{1}{8}$ $\dfrac{2}{8}$ $\dfrac{3}{8}$ $\dfrac{4}{8}$ $\dfrac{5}{8}$ $\dfrac{6}{8}$ $\dfrac{7}{8}$ $\dfrac{8}{8}$

26. **12 slices** $\dfrac{2}{12}$ or $\dfrac{1}{6}$

Measurement

27.

1l	**=**	1000ml		875g	**<**	892g
913kg	**<**	917kg		20cm	**<**	202m
10mm	**=**	1cm		858ml	**>**	848ml
96l	**>**	95l		49cm	**<**	50cm

28.

1l	+	450ml	=	**1l 450ml**		1cm	–	4mm	=	**6mm**
47m	–	39m	=	**8m**		600g	+	400g	=	**1kg**
750ml	+	750ml	=	**1l 500ml**		4cm	–	30mm	=	**1cm**
50kg	–	38kg	=	**12kg**		8m	+	100cm	=	**9m**

29. Orange: **14cm**   Green: **20cm**   Blue: **18cm**

30. **£4.50 total, £5.50 change**

31. **3:10**   **9:44**   **12:59**

32.

7:26	**18:11**	**23:04**
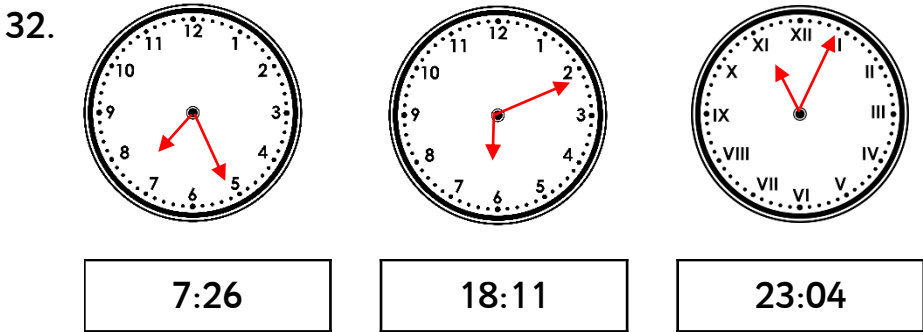
33. 60 seconds

31	30	28 or 29
30	31	31

365 days in a year
366 days in a leap year

34.

	Morning	Afternoon
4:06 PM		✓
07:00	✓	
21:35		✓

|	Morning	Afternoon
11:07	✓	
3:15 AM	✓	
12:04		✓

35. Emma's watch: 07:30   Jonas' clock: 21:00

36.
1:00pm to 5:30pm   **>**   8:30pm to 9:30pm

7:30am to 12:00pm   **<**   5:00am to 11:00am

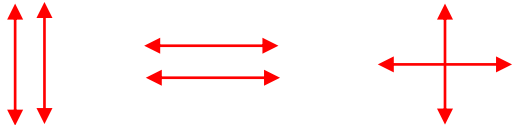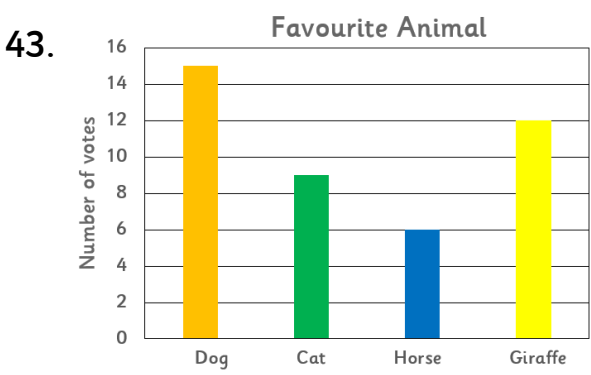12:30pm to 3:00pm   **=**   4:00pm to 6:30pm

2:15pm to 5:30pm   **<**   4:00am to 7:30am

37. ◯ ⬡ ⬠ ▭ △ ▢
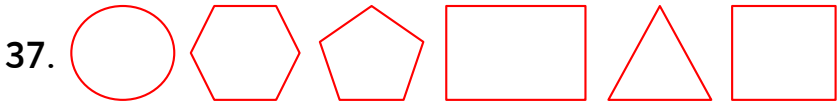
38.

Name of shape	Pyramid	Cuboid	Cone	Cylinder
edges	6	12	1	2
vertices	4	8	1	0
faces	4	6	1	2

39. C

40. 2 right angles   4 right angles

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End of Year Maths Assessment – Year 3 ANSWERS

41. less than   greater than

42.

Statistics

43.

Favourite Animal

44. dog
9 more
6 fewer
42 people in total