Math Mammoth Grade 3 British Version
End-of-Year Test

This test is quite long, so I do not recommend having your child/student do it in one sitting. Break it into parts and administer them either on consecutive days, or perhaps on morning/evening/morning. This is to be used as a diagnostic test. You may even skip those areas that you already know for sure your student has mastered.

The test does not cover every single concept that is covered in the *Math Mammoth International Version Grade 3*, but all the major concepts and ideas are tested here. This test is evaluating the child's ability in the following content areas:

- multiplication tables and basic division facts
- mental addition and subtraction
- regrouping in addition and subtraction
- basic word problems
- multiplication and related concepts
- clock to the minute and elapsed time calculations
- basic money calculations (finding totals and change)
- place value and rounding with four-digit numbers
- quadrilaterals, perimeter, and area
- division and related concepts (remainder, word problems)
- measuring lines in centimetres and millimetres
- basic usage of common metric measuring units
- the concept of a fraction and mixed number, equivalent fractions, and comparing fractions

Note 1: problems #2 and #3 are done orally and timed. Let the student see the problems. Read each problem aloud, and wait a maximum of 5-6 seconds for an answer. Mark the problem as right or wrong according to the student's (oral) answer. Mark it wrong if there is no answer. Then you can move on to the next problem.

You do not have to mention to the student that the problems are timed or that he/she will have 5-6 seconds per answer, because the idea here is not to create extra pressure by the fact it is timed, but simply to check if the student has the facts memorized (quick recall). You can say for example (vary as needed):

"*I will ask you some multiplication and division questions. Try to answer me as quickly as possible. In each question, I will only wait a little while for you to answer, and if you do not say anything, I will move on to the next problem. So just try your best to answer the questions as quickly as you can.*"

In order to continue with the Math Mammoth Grade 4 Complete Curriculum, I recommend that the child gain a minimum score of 80% on this test, and that the teacher or parent review with him any content areas that are found weak. Children scoring between 70 and 80% may also continue with grade 4, depending on the types of errors (careless errors or not remembering something, vs. lack of understanding). The most important content areas to master are the multiplication tables and the word problems, because of the level of logical reasoning needed in them. Use your judgment.

Instructions to the student: Answer each question in the space provided.

Instructions to the teacher: See the grading grid below. The total is 207 points. A score of 166 points is 80%.

Grading on question 1 (the multiplication tables grid): There are 169 empty squares to fill in the table, and the completed table is worth 17 points. Count how many of the answers the student gets correct, divide that by 10, and round to the nearest whole point. For example: a student gets 24 correct: 24/10 = 2.4, which rounded becomes 2 points. Or, a student gets 85 correct: 85/10 = 8.5, which rounds to 9 points.

Question	Max. points	Student score
Multiplication Tables and Basic Division Facts		
1	17 points	
2	16 points	
3	16 points	
	subtotal	/ 49
Addition and Subtraction, Including Word Problems		
4	6 points	
5	6 points	
6	4 points	
7	4 points	
8	4 points	
9	3 points	
10	3 points	
11	4 points	
	subtotal	/ 34
Multiplication and Related Concepts		
12	1 point	
13	1 point	
14	3 points	
15	3 points	
16	1 point	
17	2 points	
18	1 point	
	subtotal	/ 12
Time		
19	8 points	
20	3 points	
	subtotal	/ 11

Question	Max. points	Student score
Graphs		
21a	1 point	
21b	1 point	
21c	1 point	
21d	2 points	
	subtotal	/ 5
Money		
22a	1 point	
22b	2 points	
22c	2 points	
23	2 points	
24	3 points	
	subtotal	/ 10
Place Value and Rounding		
25	2 points	
26	5 points	
27	4 points	
28	2 points	
29	8 points	
	subtotal	/ 21
Geometry		
30	5 points	
31	2 points	
32	4 points	
33	2 points	
34	2 points	
35	3 points	
	subtotal	/ 18

Question	Max. points	Student score
Measuring		
36	2 points	
37	2 points	
38	2 points	
39	6 points	
	subtotal	/ 12
Division and Related Concepts		
40	2 points	
41	6 points	
42	3 points	
43	2 points	
44	2 points	
	subtotal	/ 15
Fractions		
45	6 points	
46	3 points	
47	2 points	
48	3 points	
49	4 points	
50	2 points	
	subtotal	/ 20
	TOTAL	**/ 207**

End-of-Year Test - Grade 3

Multiplication Tables and Basic Division Facts

1. Your first problem will be to fill in the complete multiplication table.
   See how much of it you can fill in twelve minutes.

×	0	1	2	3	4	5	6	7	8	9	10	11	12
0													
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

In problems 2 and 3, your teacher will read you multiplication and division questions. Try to answer them as quickly as possible. In each question, he/she will only wait a little while for you to answer, and if you do not say anything, your teacher will move on to the next problem. So just try your best to answer the questions as quickly as you can.

2. Multiply.

a.	b.	c.	d.
$2 \times 7 =$ _____	$7 \times 4 =$ _____	$3 \times 3 =$ _____	$7 \times 8 =$ _____
$8 \times 3 =$ _____	$5 \times 8 =$ _____	$4 \times 4 =$ _____	$6 \times 5 =$ _____
$5 \times 5 =$ _____	$3 \times 9 =$ _____	$7 \times 7 =$ _____	$8 \times 6 =$ _____
$9 \times 4 =$ _____	$5 \times 7 =$ _____	$4 \times 8 =$ _____	$6 \times 9 =$ _____

3. Divide.

a.	b.	c.	d.
$21 \div 3 =$ _____	$32 \div 4 =$ _____	$45 \div 5 =$ _____	$50 \div 5 =$ _____
$35 \div 7 =$ _____	$40 \div 8 =$ _____	$28 \div 4 =$ _____	$72 \div 9 =$ _____
$48 \div 6 =$ _____	$66 \div 6 =$ _____	$36 \div 9 =$ _____	$18 \div 6 =$ _____
$49 \div 7 =$ _____	$56 \div 8 =$ _____	$63 \div 7 =$ _____	$27 \div 9 =$ _____

Addition and Subtraction, including Word Problems

4. Add mentally.

a. 240 + 70 = _____ 99 + 50 = _____	**b.** 540 + 80 = _____ 335 + 9 = _____	**c.** 59 + 89 = _____ 46 + 34 = _____

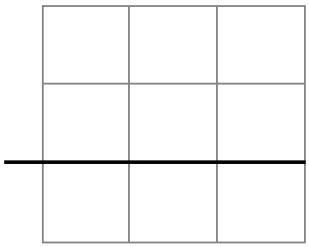
5. Subtract mentally.

a. 100 – 67 = _____ 73 – 68 = _____	**b.** 651 – 8 = _____ 54 – 9 = _____	**c.** 52 – 37 = _____ 400 – 22 = _____

6. Subtract and then check your answers using the grid.

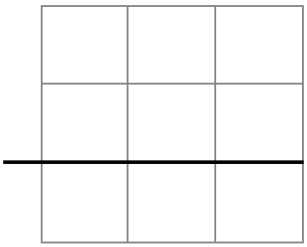
a.

$$\begin{array}{r} 962 \\ -\ 383 \\ \hline \end{array}$$



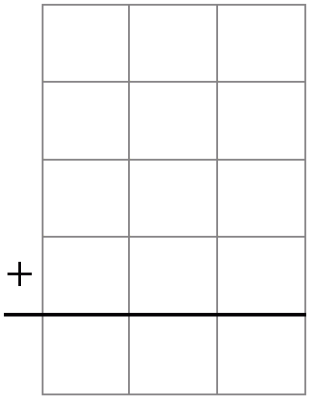
b.

$$\begin{array}{r} 7002 \\ -\ 4526 \\ \hline \end{array}$$

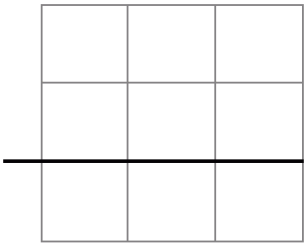


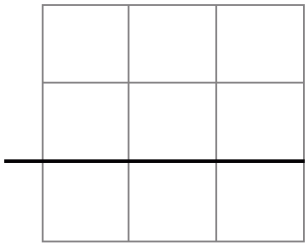
7. Solve.

a. 82 + 5 539 + 1254 + 278



b. 535 + (430 – 173)

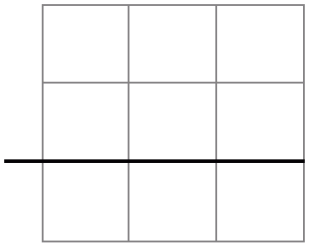




8. Solve what number goes in place of the triangle.

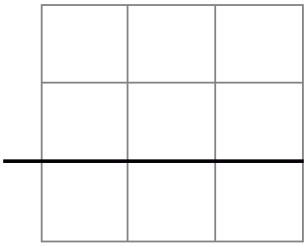
a. 414 + △ = 708

△ is _____



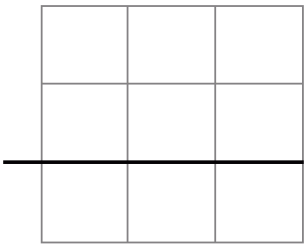
b. △ – 339 = 485

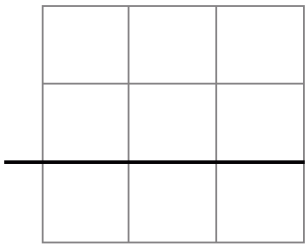
△ is _____



Solve.

9. Joe bought a mobile phone for £185 and a phone case for £32.
What was his change from £300?



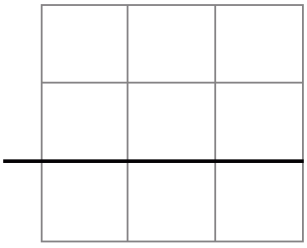


10. A family is driving 300 kilometres from their hometown to Grandmother's house.
Ten kilometres before the half-way point they stopped to have lunch.
How many kilometres do they still have to go?

11. A store received 100 boxes. Each box contained 8 light bulbs.

a. How many light bulbs did the store receive?

b. After selling 8 boxes, how many bulbs are left?



Multiplication and Related Concepts

12. Draw a picture to illustrate
the multiplication $3 \times 4 = 12$.

13. Solve: $5 \times 25 =$ _____

14. Solve.

a. $24 + 8 \times 3$	**b.** $2 + (5 + 4) \times 2$	**c.** $66 - 5 \times 5$

15. Write a multiplication sentence (NOT just the answer) to solve how many legs these animals have in total.

a. seven horses _____

b. five ducks _____

c. eight horses and six ducks _____

16. Each table in a restaurant seats four people. How many tables do you need to reserve for a group of 31 people?

17. A toy store had a bag of balloons for £8 and a toy car for £6.
How much would it cost to buy three bags of balloons and three toy cars?

18. Annie is bagging hair barrettes she made. She puts four barrettes in each bag. She has 28 barrettes to bag. How many bags will she need?

Time

19. Write the time the clock shows, and the time 10 minutes later.

	 **a.** _____ : _____	 **b.** _____ : _____	 **c.** _____ : _____	 **d.** _____ : _____
10 min. later	_____ : _____	_____ : _____	_____ : _____	_____ : _____

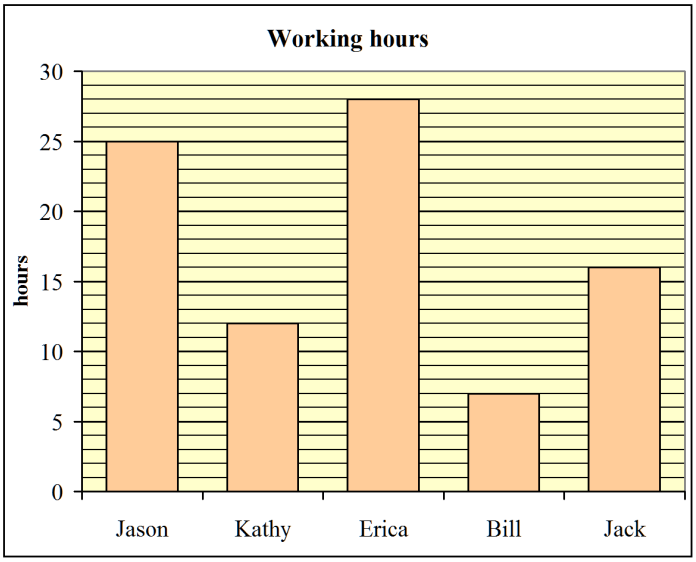
20. **a.** The TV programme starts at 6:25 PM and ends at 7:00 PM. How long is it?

b. Mr. Mayer's plane landed at 11:30 AM. If the flight lasted for 6 hours, when did it take off?

c. The soccer match was scheduled for 21 May, but it was postponed (delayed) by one week. What was the new date for the match?

Graphs

21. The graph shows some people's working hours on Uncle Ted's apple farm.



a. How many hours did Erica work?

b. How many hours did Kathy work?

c. How many more hours did Jason work than Jack?

d. How many hours did the three boys work in total?

Money

22. Find the total cost of buying the items listed. Line up the numbers carefully when you add.

 £6.60	 £8.95	 £1.25	 £16.59
a. a calculator and a bag	**b.** two pens and a book	**c.** three pens and a calculator	

23. Work out the change.

a. A book costs £7.10. You give £10. Change: £_____	**b.** A basket costs £4.45. You give £5. Change: £_____

24. A pencil case costs £2.35. If Mark buys four of them with his £10, what will his change be?

Place Value and Rounding

25. Fill in the missing part.

a. 2000 + 60 + _____ = 2760	**b.** 700 + 20 + _____ + 9 = 2729

26. Compare and write < , > or = .

a. 6034 ☐ 3064	**b.** 5156 ☐ 5516	**c.** 9079 ☐ 9097
d. 6000 + 3 + 40 ☐ 400 + 60 + 3000	**e.** 900 + 7000 ☐ 90 + 7000 + 2	

27. Add and subtract.

a. 5400 + 300 = _____ 7800 + 800 = _____	**b.** 2900 – 1700 = _____ 8100 – 300 = _____

28. Round the numbers to the nearest TEN.

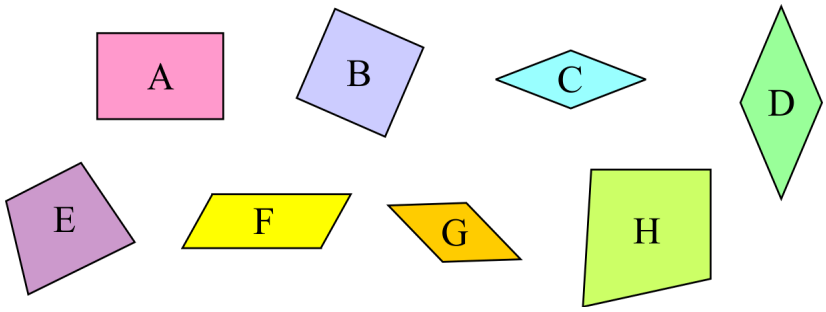
a. 743 ≈ _____	**b.** 987 ≈ _____	**c.** 251 ≈ _____	**d.** 665 ≈ _____

29. Estimate these calculations by rounding the numbers to the nearest hundred.
Also, calculate the exact answer.

a. Round the numbers, then add: 3782 + 2255 ↓ ↓ + = _____	**Calculate exactly:** 3 7 8 2 + 2 2 5 5 _____
b. Round the numbers, then subtract: 8149 – 888 ↓ ↓ – = _____	**Calculate exactly:** 8 1 4 9 – 8 8 8 _____

Geometry

30. Name any special quadrilaterals.



_____

_____

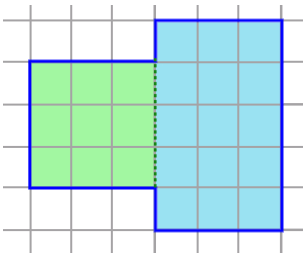
_____

_____

_____

_____

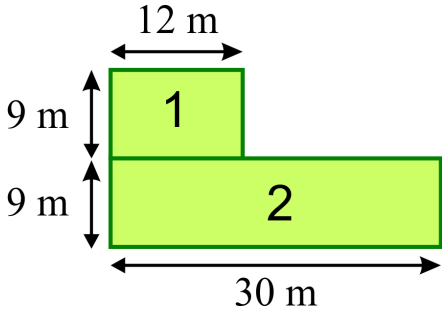
31. Find the perimeter and area of this shape.



Perimeter: _____

Area : _____

32. The picture shows a two-part lawn.



a. Find the areas of part 1 and part 2.

_____ and _____

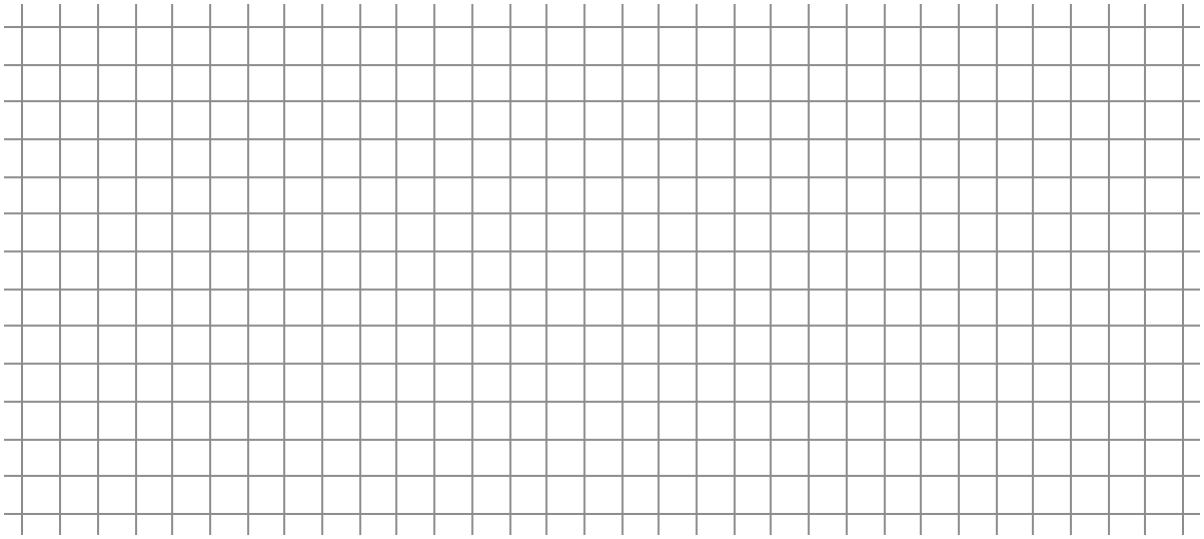
b. Find the perimeter of the whole lawn.

33. The perimeter of a rectangle measures 66 cm. Find the other side length, if one side measures 10 cm.

34. Draw in the grid below:

a. a rectangle with an area of 15 square units

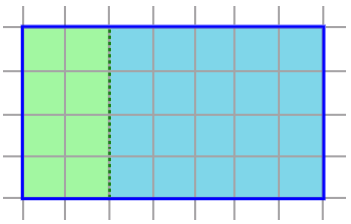
b. a rectangle with a perimeter of 10 units.



35. Write a number sentence for the total area, thinking of one rectangle or two.

___ × (___ + ___) = ___ × ___ + ___ × ___ = _____

area of the whole rectangle | area of the first part | area of the second part



Measuring

36. Draw lines:

a. 16 cm long

b. 75 mm long

37. Write in order from smallest to biggest unit: cm km m mm

38. Name a unit that you can use to measure a small amount of water in a drinking glass.

39. Fill in the blanks with suitable units of length. Sometimes several different units are possible.

a. The mountain is 2000 _____ high.

b. The pencil is 14 _____ long.

c. Jeremy bought 5 _____ of potatoes.

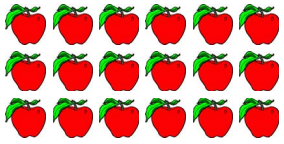
d. The glass holds 300 _____ of liquid.

e. The teacher weighs 68 _____ .

f. The room was 7 _____ wide.

Division and Related Concepts

40. Write two multiplications and two divisions for the same picture.



____ × ____ = _____ _____ ÷ ____ = ____

____ × ____ = _____ _____ ÷ ____ = ____

41. Divide, but CROSS OUT all the problems that are impossible!

a. 17 ÷ 1 = _____ 17 ÷ 0 = _____	**b.** 17 ÷ 17 = _____ 0 ÷ 0 = _____	**c.** 1 ÷ 1 = _____ 0 ÷ 1 = _____

42. Divide.

a. 17 ÷ 2 = _____, R ____ **b.** 24 ÷ 5 = _____, R ____ **c.** 47 ÷ 7 = _____, R ____

43. A team leader divided a group of 24 children into teams. Can he divide the children equally into teams of 5?

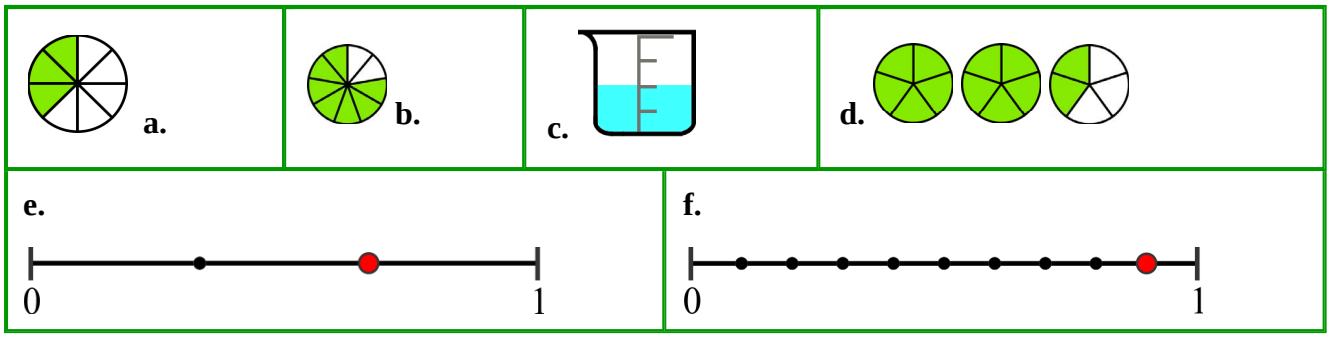
Teams of 6?

Teams of 7?

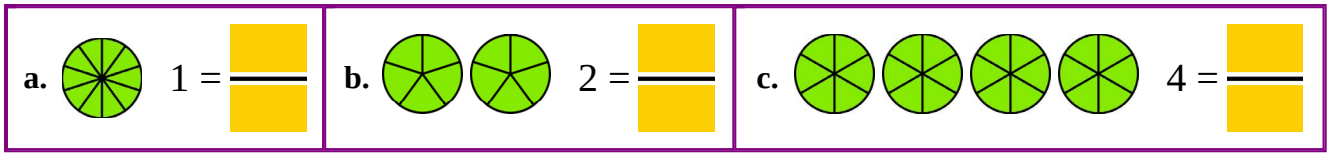
44. Annie, Rob, and Ted decided to buy a gift that cost £16 and flowers that cost £14 for Mum. The children shared the total cost equally. How much did each child pay?

Fractions

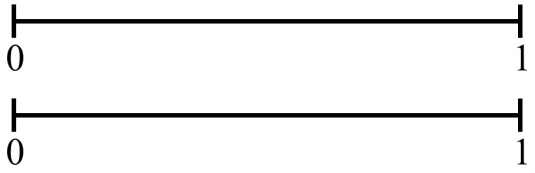
45. Write the fraction or mixed number.



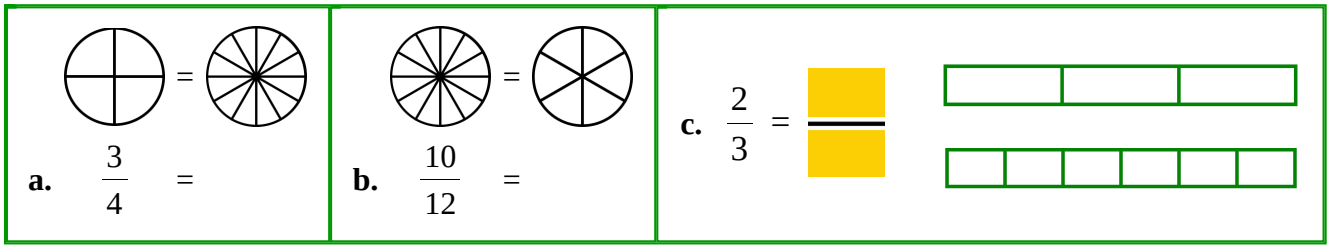
46. Write the whole numbers as fractions.



47. Mark the equivalent fractions $\frac{3}{6}$ and $\frac{1}{2}$ on the number lines.



48. Shade parts for the first fraction. Shade the same *amount* in the second picture, forming an equivalent fraction. Write the second fraction.



49. Compare the fractions.

a. $\frac{2}{7} \square \frac{2}{3}$ **b.** $\frac{5}{11} \square \frac{7}{11}$ **c.** $\frac{1}{2} \square \frac{9}{10}$ **d.** $\frac{1}{7} \square \frac{1}{8}$

50. Mary ate 1/2 of a strawberry pie, and David ate 7/12 of a blueberry pie. Look at the pictures. Who ate more pie?