Student Name: _____ **Homeroom:** _____

3rd Grade Math
Distance Learning Packet
Week 3

Directions:

Daily Directions

- Read directions for the topic and follow the examples.
- Students should complete approximately 1-2 sections per day

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Contact Information:

Teacher Contact Information

School Contact Information

4.2 Division Using a Multiplication Table (DOK 2)

There is an easier way to divide than circling groups of items. You can use a multiplication table.

Example 1: Find the answer for 32 ÷ 8. You may use the column or the row for the smaller number, 8. We will use the column. Starting at the edge, follow the column or row for number 8 until you find the larger number, 32. Then, follow the row across to find the answer, 4. 32 ÷ 8 = 4.

Multiplication Table

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Example 2: Find the answer for 45 ÷ 5. You may use the column or the row for the smaller number, 5. We will use the row. Starting at the edge, follow the row for number 5 until you find the larger number, 45. Then, follow the column up to find the answer, 9. 45 ÷ 5 = 9.

Multiplication Table

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60

Use the multiplication table to find the quotient. Write your answers on the lines. (DOK 2)

Multiplication Table

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

1. $42 \div 6 =$ _____
2. $50 \div 5 =$ _____
3. $21 \div 7 =$ _____
4. $30 \div 10 =$ _____
5. $28 \div 7 =$ _____
6. $54 \div 9 =$ _____
7. $15 \div 3 =$ _____
8. $63 \div 9 =$ _____
9. $80 \div 8 =$ _____
10. $32 \div 8 =$ _____
11. $24 \div 3 =$ _____
12. $48 \div 6 =$ _____
13. $56 \div 7 =$ _____
14. $18 \div 6 =$ _____
15. $90 \div 9 =$ _____
16. $20 \div 4 =$ _____
17. $64 \div 8 =$ _____
18. $36 \div 6 =$ _____

Find the quotients for each group of division problems. You may use the multiplication table on the previous page if needed. (DOK 2)

19. $20 \div 10 =$ _____ $20 \div 2 =$ _____ $20 \div 4 =$ _____ $20 \div 5 =$ _____	20. $18 \div 9 =$ _____ $18 \div 2 =$ _____ $18 \div 6 =$ _____ $18 \div 3 =$ _____	21. $24 \div 6 =$ _____ $24 \div 4 =$ _____ $24 \div 3 =$ _____ $24 \div 8 =$ _____
22. $16 \div 4 =$ _____ $16 \div 8 =$ _____ $16 \div 2 =$ _____ $16 \div 1 =$ _____	23. $40 \div 8 =$ _____ $40 \div 5 =$ _____ $40 \div 10 =$ _____ $40 \div 4 =$ _____	24. $12 \div 3 =$ _____ $12 \div 4 =$ _____ $12 \div 6 =$ _____ $12 \div 2 =$ _____

Circle TRUE or FALSE for each problem. (DOK 2)

25. $72 \div 8 = 7$ TRUE FALSE

26. $63 \div 7 = 9$ TRUE FALSE

27. $54 \div 9 = 6$ TRUE FALSE

28. $48 \div 8 = 7$ TRUE FALSE

29. $27 \div 9 = 3$ TRUE FALSE

4.3 Multiplication and Division Fact Families (DOK 2, 3)

A **fact family** is a group of three numbers that can be used for two multiplication sentences and two division sentences.

Example 1	Example 2	Example 3
The three numbers are 24, 4, and 6.	The three numbers are 80, 10, and 8.	The three numbers are 6, 2, and 3.
You can make two true **multiplication** sentences with these numbers: $4 \times 6 = 24$ or $6 \times 4 = 24$.	You can make two true **multiplication** sentences with these numbers: $10 \times 8 = 80$ or $8 \times 10 = 80$.	You can make two true **multiplication** sentences with these numbers: $2 \times 3 = 6$ or $3 \times 2 = 6$.
You can make two true **division** sentences with these numbers: $24 \div 6 = 4$ or $24 \div 4 = 6$.	You can make two true **division** sentences with these numbers: $80 \div 8 = 10$ or $80 \div 10 = 8$.	You can make two true **division** sentences with these numbers: $6 \div 2 = 3$ or $6 \div 3 = 2$.

Write two true multiplication sentences and two true division sentences for each group of numbers. (DOK 3)

1. 50, 10, 5

_____

_____

_____

_____

2. 36, 9, 4

_____

_____

_____

_____

3. 16, 8, 2

_____

_____

_____

_____

4. 72, 9, 8

5. 20, 4, 5

6. 56, 8, 7

7. 27, 9, 3

8. 32, 8, 4

9. 90, 10, 9

Fill in the missing numbers. (DOK 2)

10. $6 \times \square = 42$

11. $9 \times \square = 18$

12. $10 \times \square = 50$

13. $8 \times \square = 24$

14. $3 \times \square = 27$

15. $7 \times \square = 35$

4.4 Relationships in Fact Families (DOK 3)

You can use fact families to double check answers to either multiplication or division problems.

Solve: $8 \times 4 =$ ____

$8 \times 4 = \underline{32}$

Double check the answer by making a division problem from the numbers. $32 \div 8 = 4$. Is this true? Yes. Now you know for certain that $8 \times 4 = 32$.

Solve $54 \div 9 =$ ____

$54 \div 9 = \underline{6}$

Double check the answer by making a multiplication problem from the numbers. $9 \times 6 = 54$. Is this true? Yes. Now you know for certain that $54 \div 9 = 6$.

Solve each multiplication problem. Then, write one division problem to double check your answer. The first one is done for you. (DOK 3)

1. $5 \times 6 =$ 30 $30 \div 5 = 6$	2. $4 \times 8 =$ _____ _____	3. $5 \times 9 =$ _____ _____
4. $2 \times 7 =$ _____ _____	5. $10 \times 1 =$ _____ _____	6. $6 \times 3 =$ _____ _____
7. $4 \times 4 =$ _____ _____	8. $3 \times 8 =$ _____ _____	9. $7 \times 2 =$ _____ _____
10. $8 \times 5 =$ _____ _____	11. $9 \times 4 =$ _____ _____	12. $20 \times 4 =$ _____ _____

4.5 Finding the Missing Number (DOK 2)

Find the missing numbers in division problems by asking yourself a question based on where the missing number is in the division problem. Use your knowledge of fact families to find the answers.

60 ÷ _____ = 10 Ask yourself "60 divided by 10 is equal to what?" 60 ÷ 10 = 6 Knowing fact families work together, you know that 60 ÷ 6 = 10. The answer is 6.
_____ ÷ 5 = 5 The larger number is missing, so you must multiply the two smaller numbers. Ask yourself " What is equal to 5 times 5?" 5 × 5 = 25. The answer is 25.
81 ÷ 9 = _____ Ask yourself "81 divided by 9 is equal to what?" 81 ÷ 9 = 9 The answer is 9.

Find the missing numbers. Write your answers on the lines in the problems. (DOK 2)

1. 28 ÷ _____ = 4
2. 42 ÷ 7 = _____
3. _____ ÷ 8 = 2
4. _____ ÷ 3 = 3
5. 64 ÷ _____ = 8
6. 12 ÷ 3 = _____
7. 80 ÷ 8 = _____
8. _____ ÷ 5 = 7
9. 8 ÷ _____ = 2
10. _____ ÷ 6 = 2
11. 49 ÷ 7 = _____
12. 63 ÷ 9 = _____
13. 3 ÷ 1 = _____
14. 24 ÷ _____ = 3
15. _____ ÷ 2 = 9
16. _____ ÷ 4 = 5
17. _____ ÷ 6 = 10
18. 20 ÷ _____ = 5
19. 30 ÷ 10 = _____
20. 40 ÷ _____ = 8
21. 72 ÷ 8 = _____

Chapter 5
Fractions

Standard(s) covered: 3.NF.A.1, 3.NF.A.2, 3.NF.A.3, LEAP.I.3.1, LEAP.II.3.3, LEAP.II.3.5, LEAP.II.3.8

5.1 Reading and Writing Fractions (DOK 1)

Fractions are numbers that represent how many parts of a whole there are. If you see the fraction $\frac{1}{3}$, you know that one part of three is included. The 1 in this fraction is called the **numerator**. The 3 in this fraction is called the **denominator**.

$$\frac{1 = \text{the numerator}}{3 = \text{the denominator}}$$

An easy way to remember which number is the denominator is to remember that denominator starts with a "d" and so does "down". The denominator is "down" from the numerator.

$$\frac{1 \text{ is the number of parts included}}{3 \text{ is the total number of parts}}$$

When you read a fraction, read the top number first, and then read the bottom number. This fraction above is one-third.

Rules for pronouncing denominators:

$\frac{4}{1}$ = four-ones $\quad$ $\frac{1}{2}$ = one-half $\quad$ $\frac{1}{3}$ = one-third

Denominators greater than 3 are pronounced just like the numbers, with an added "t-h" at the end of the word if the numerator is one.

Examples:

$\frac{1}{4}$ = one-fourth $\quad$ $\frac{1}{8}$ = one-eighth $\quad$ $\frac{1}{13}$ = one-thirteenth

Denominators greater than 3 are pronounced just like the numbers, with an added "t-h-s" at the end of the word if the numerator is more than one.

Examples:

$\frac{3}{4}$ = three-fourths $\quad$ $\frac{2}{7}$ = two-sevenths $\quad$ $\frac{4}{11}$ = four-elevenths

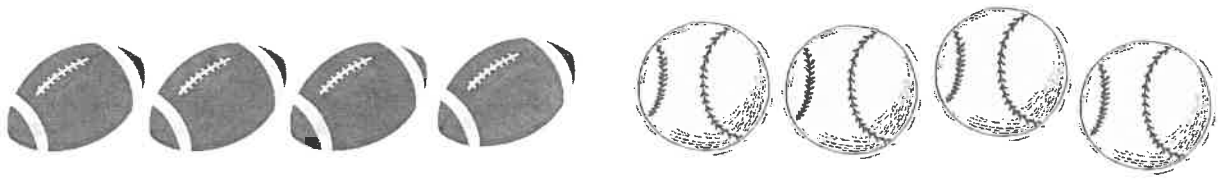
Write the fractions in number form. The first one is done for you. (DOK 1)

1. four-fifths = $\frac{4}{5}$
2. six-eighths = _____
3. seven-tenths = _____
4. three-seventeenths = _____
5. one-ninth = _____
6. two-fourths = _____
7. ten-elevenths = _____
8. one-third = _____
9. eight-tenths = _____
10. five-eighths = _____

Write the word form of the fractions. The first one is done for you. (DOK 1)

11. $\frac{1}{2}$ = one-half
12. $\frac{3}{5}$ = _____
13. $\frac{4}{8}$ = _____
14. $\frac{1}{4}$ = _____
15. $\frac{3}{9}$ = _____
16. $\frac{2}{3}$ = _____
17. $\frac{10}{12}$ = _____
18. $\frac{5}{7}$ = _____
19. $\frac{6}{10}$ = _____
20. $\frac{5}{6}$ = _____

Whole numbers can be expressed as fractions, too. The number 4 can be expressed as $\frac{4}{1}$. The numerator in this fraction tells you the total number of parts is 4. The denominator in this fraction tells you that something is not divided - it is a whole one. There are four whole ones, such as, footballs or baseballs.



Express each of these whole numbers as a fraction. (DOK 1)

21. 6 = _____ 22. 12 = _____ 23. 3 = _____

24. 1 = _____ 25. 43 = _____ 26. 26 = _____

Write how many whole numbers are equal to these fractions. (DOK 1)

27. $\frac{11}{1}$ = _____ 28. $\frac{5}{1}$ = _____ 29. $\frac{2}{1}$ = _____

30. $\frac{17}{1}$ = _____ 31. $\frac{9}{1}$ = _____ 32. $\frac{8}{1}$ = _____

33. Henry cut an apple into 2 equal pieces. He gave the two pieces to his brother. Which number is equal to the fraction of the apple Henry gave away?

A. 2 **B.** 1 **C.** 4 **D.** 3

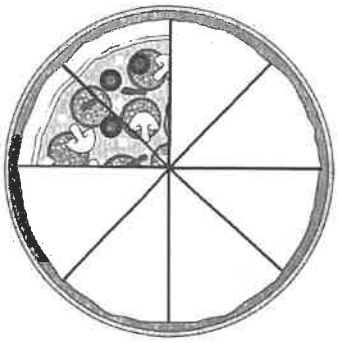
5.2 Modeling Fractions (DOK 2, 3)

This picture shows a pizza cut into 8 slices. What fraction of the pizza is there?

The numerator shows the number of pieces, 8.
The denominator shows how many equal parts of the pizza there are.

There is $\frac{8}{8}$ of a pizza left. $\frac{8}{8}=1$ pizza

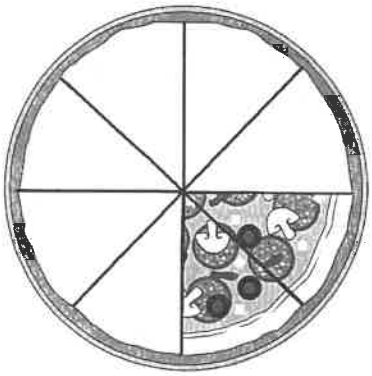
This picture shows a pizza that was cut into 8 pieces that has only 2 pieces left. What fraction of the pizza is left?



The numerator shows the number of pieces left, 2.
The denominator shows the number of pieces the pizza was cut into, 8.

There is $\frac{2}{8}$ of a pizza left.

This picture also shows a pizza that was cut into 8 pieces and has only 2 pieces left. This time, find the fraction of the pizza that was eaten.



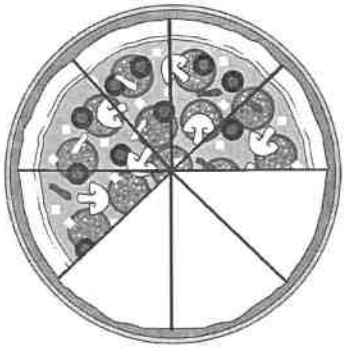
The numerator shows the number of pieces eaten, 6.

The denominator shows the number of pieces there were to begin with, 8.

They ate $\frac{6}{8}$ of the pizza.

Find two fractions for each picture. Write your answers on the lines. (DOK 2)

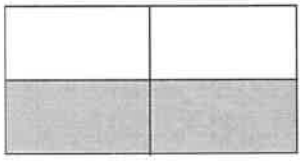
1.



Fraction of the pizza that is left: _____

Fraction of the pizza that is gone: _____

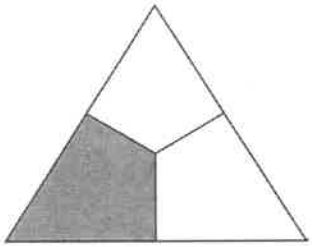
2.



Fraction of the box that is shaded: _____

Fraction of the box that is not shaded: _____

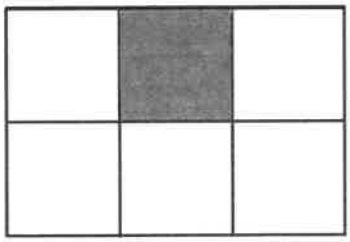
3.



Fraction of the triangle that is shaded: _____

Fraction of the triangle that is not shaded: _____

4.

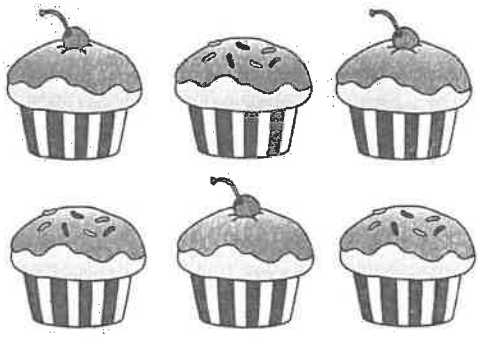


Fraction of the box that is shaded: _____

Fraction of the box that is not shaded: _____

You can also use fractions to show how many there are in a set.

The picture below shows a set of 6 cupcakes. What fraction of the set of cupcakes has cherries on top?



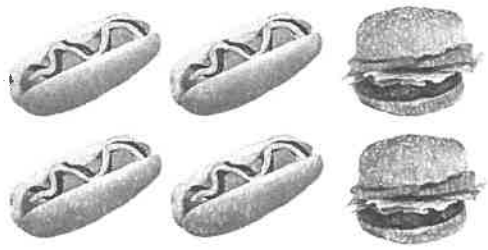
The numerator shows the number of cupcakes with cherries on top, 3.

The denominator shows the number of cupcakes there are in all, 6.

The fraction of the cupcakes with cherries is $\frac{3}{6}$.

Find two fractions for each picture. Write your answers on the lines. (DOK 2)

5.



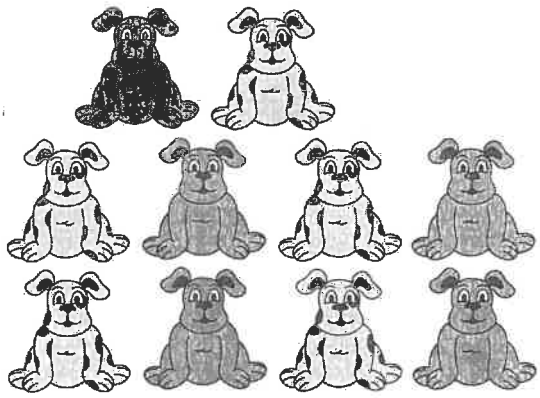
What fraction of the sandwiches are hotdogs?

_____

What fraction of the sandwiches are hamburgers?

_____

6.



What fraction of the dogs are spotted?

_____

What fraction of the dogs are plain?

_____

Match the word problem on the left column to the fraction model on the right column. Write your answer on the lines. (DOK 3)

7. Mia has a bag of beads that is one-quarter red, one-half blue, and one-quarter white. Which choice shows how Mia's bag of beads is divided into colors? _____

8. Kevin has one-half red toy cars, one-quarter blue toy cars, and one-quarter white toy cars. Which choice shows how Kevin's toy cars are divided into colors? _____

9. Sophia has one-half white tops, one-quarter red tops, and one-quarter blue tops. Which choice shows how Sophia's tops are divided into colors? _____

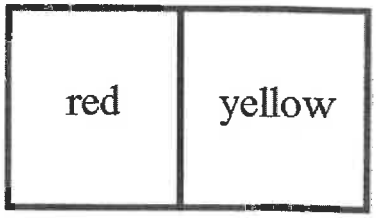
10. Harold has one-quarter yellow pencils, one-quarter red pencils, and one-half blue pencils. Which choice shows how Harold's pencils are divided into colors? _____

11. Kim has one-half yellow ribbons, one-quarter blue ribbons, and one-quarter red ribbons. Which choice shows how Kim's ribbons are divided into colors? _____

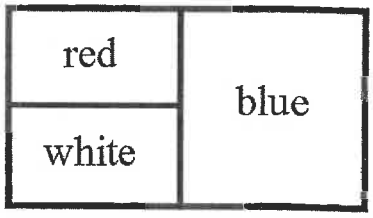
12. James has one-half yellow toy cars, one-quarter red toy cars, and one-quarter white toy cars. Which choice shows how James' toy cars are divided into colors? _____

13. Lisa has one-half red beads, and one-half yellow beads. Which choice shows how Lisa's beads are divided into colors? _____

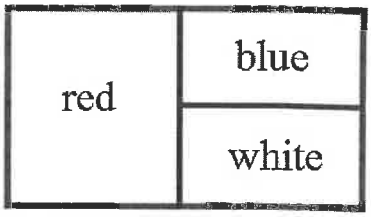
A



B



C



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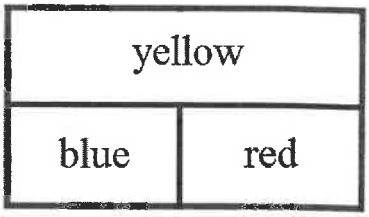
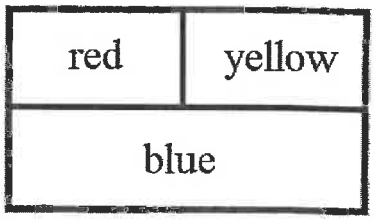


E



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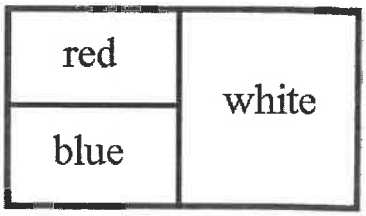
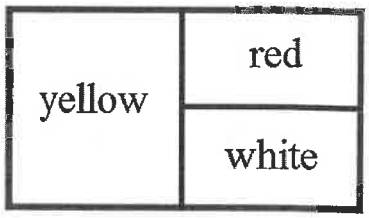


G



5.3 Comparing Fractions (DOK 2, 3)

You can decide if a fraction of the same whole is smaller or larger than another fraction by first looking at the denominators. If they are the same, then the larger numerator is the larger fraction.

Brandon has eaten $\frac{2}{3}$ of a donut. He has $\frac{1}{3}$ of this same donut left. These two fractions, $\frac{2}{3}$ and $\frac{1}{3}$ have the **same denominator**. Which is the greater fraction? The numerator number 2 is greater than the numerator number 1, so $\frac{2}{3}$ is greater than $\frac{1}{3}$. We use the symbols < or > to show which number is greater. The arrow on these symbols always point to the smaller number. $\frac{2}{3} > \frac{1}{3}$. Or, you could say that $\frac{1}{3} < \frac{2}{3}$. See how the arrow on the symbols < and > always point to $\frac{1}{3}$, the smaller fracion.

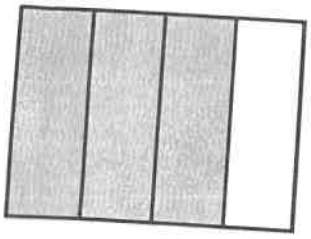
Put one of the symbols, < or > , in the box for each set of fractions. (DOK 2)

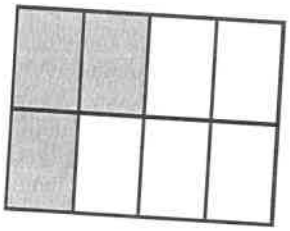
< means less than. > means greater than.

1. $\frac{1}{4} \square \frac{3}{4}$
2. $\frac{4}{6} \square \frac{2}{6}$
3. $\frac{1}{8} \square \frac{7}{8}$
4. $\frac{3}{7} \square \frac{2}{7}$
5. $\frac{5}{6} \square \frac{3}{6}$
6. $\frac{2}{10} \square \frac{1}{10}$
7. $\frac{4}{9} \square \frac{1}{9}$
8. $\frac{7}{8} \square \frac{4}{8}$
9. $\frac{11}{12} \square \frac{10}{12}$

If the numerators are the same and the denominators are different, you can decide a fraction is smaller or larger than another fraction by looking at the denominators.

These two fractions, $\frac{3}{4}$ and $\frac{3}{8}$ have the **same numerator**. Which is the greater fraction? In this case, the denominator with the smaller number is the larger fraction. See the model of the fractions below. The first model shows 3 of 4 parts shaded $= \frac{3}{4}$. The second model shows 3 of 8 parts shaded $= \frac{3}{8}$. You can plainly see that 3 of 4 parts has more shading than 3 of 8 parts, so, $\frac{3}{4} > \frac{3}{8}$.





Put one of the symbols, < or >, in the box for each set of fractions. (DOK 2)

< means less than. > means greater than.

10. $\frac{2}{6} \square \frac{2}{3}$

11. $\frac{4}{7} \square \frac{4}{8}$

12. $\frac{5}{11} \square \frac{5}{9}$

13. $\frac{1}{2} \square \frac{1}{8}$

14. $\frac{9}{10} \square \frac{9}{13}$

15. $\frac{3}{5} \square \frac{3}{4}$

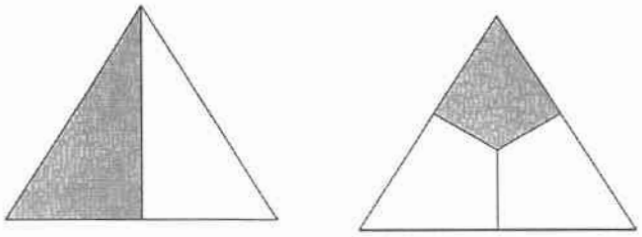
16. $\frac{7}{9} \square \frac{7}{12}$

17. $\frac{2}{5} \square \frac{2}{8}$

18. $\frac{8}{9} \square \frac{8}{16}$

First, find the shaded fraction of each model in the pair of models. Then, write a fraction sentence using the symbol < or > to show which shaded portion of the model is greater. (DOK 2)

19.



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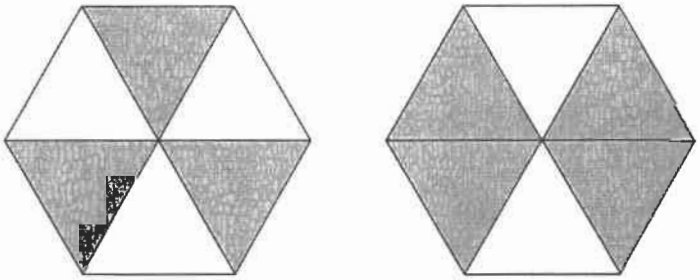
20.



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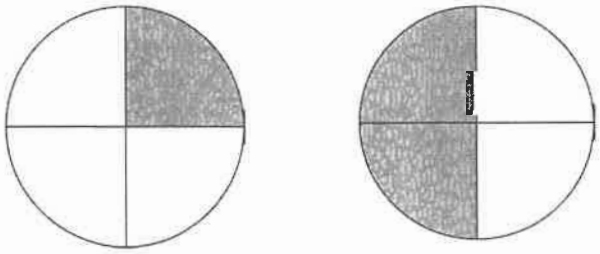
21.



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22. The length, in inches, of several bugs Ron measured are shown on the table.

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

Circle all the <u>correct</u> comparisons of the bug's lengths. (DOK 3)

A) Bug 2 < Bug 5

B) Bug 6 < Bug 1

C) Bug 3 > Bug 5

D) Bug 4 < Bug 3

E) Bug 6 > Bug 2

F) Bug 1 > Bug 4