

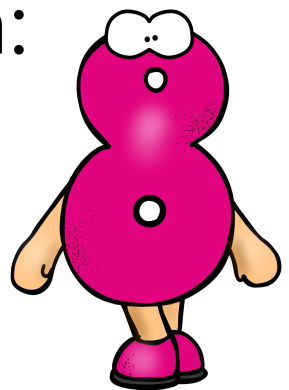
EDM  
Version 4



# Grade 3

Everyday Math:

# Unit



# Multiplication & Division

# Study Guide



# Thank you!

Catherine Wiist @ Abc123is4me

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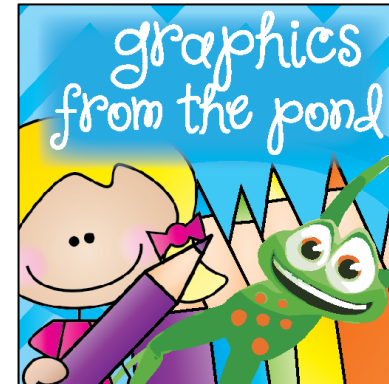
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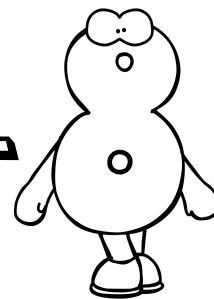


Name: \_\_\_\_\_

Test Date: \_\_\_\_ - \_\_\_\_ - \_\_\_\_

**Grade 3**

**Everyday Math: Unit**



# Multiplication & Division **Study Guide**

## **Unit Vocabulary:**

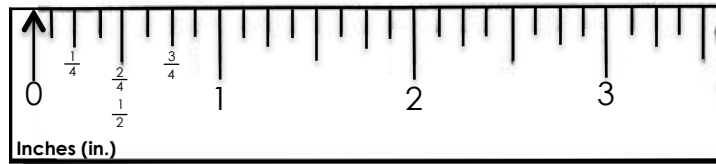
argument, bases, conjecture, edge, extended facts,  
faces, factor pair, factors, multiple of 10, multiples,  
plot, polyhedron, prisms, products, 3-dimensional,  
2-dimensional, vertex



# Lesson 8.1:

How do you measure to the nearest  $\frac{1}{4}$  inch?

1.



- Make a dot at  $2\frac{1}{2}$  inches from 0. Label it with the letter A.
- Make a dot at  $1\frac{3}{4}$  inches from 0. Label it with the letter B.
- Make a dot at  $1\frac{1}{4}$  inches from 0. Label it with the letter C.

2. Measure the line segment below to the nearest  $\frac{1}{4}$  inch.



about \_\_\_\_\_ in.

## Lesson 8.2:

What strategies can be used to solve extended multiplication and division facts?

Write a helper fact and use it to help you solve.

a.  $2 \times 70 = \underline{\hspace{2cm}}$

Fact I used to help:

\_\_\_\_\_

b.  $40 \times 5 = \underline{\hspace{2cm}}$

Fact I used to help:

\_\_\_\_\_

c.  $6 \times 90 = \underline{\hspace{2cm}}$

Fact I used to help:

\_\_\_\_\_

Use the helper fact to help you fill in the missing factors.

d. Helper fact:  $9 \times 2 = \underline{\hspace{2cm}}$

$90 \times \underline{\hspace{1cm}} = 180$

e. Helper fact:  $\underline{\hspace{2cm}} = 6 \times 5$

$300 = \underline{\hspace{1cm}} \times 5$

f. Helper fact:  $5 \times 5 = \underline{\hspace{2cm}}$

$\underline{\hspace{1cm}} \times 50 = 250$

## Lesson 8.3:

How do you identify factors of counting numbers?

Write in factor pairs to make the number sentences true.

$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = 12$

$16 = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$

$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = 30$

## Lesson 8.4:

How do you use clues to make conjectures and arguments to show if the statement is accurate?

1. There are 16 clowns marching in a parade. The clowns are supposed to march in rows with the same amount of clowns in each row. Find two different ways that the clowns can be arranged. Draw a sketch that shows each arrangement.

Sketch #1:	Sketch #2:
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2. Which way is better? Explain your reasoning.

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## Lesson 8.5:

How do you find products for a given factor?

1. Here is a *Factor Bingo* game mat. You draw a 3 card.

Circle at least two products with a factor of 3.

10	14	7	6	5
12	11	8	13	24
19	22	15	26	23
29	9	20	17	25
18	28	16	31	21

2. Here is a game mat for *Speed Factor Bingo*.

5	7	8	6	80
12	11	7	40	24
28	22	20	26	23
29	70	20	17	25
10	19	31	16	90

In *Speed Factor Bingo*, a player draws a card and covers all the products that have that number as a factor.

Name a factor card that would allow a player to get a bingo in one turn.

\_\_\_\_\_

Draw a line through the row, column, or diagonal to show the bingo.

## Lesson 8.6:

How is money shared equally?

Four friends want to share \$52. They have \$10 bills and \$1 bills. They can exchange larger bills for smaller bills if they need to. Write a number model. Use numbers or pictures to show how you solved the problem.

The letter \_\_\_\_\_ stands for \_\_\_\_\_

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(number model with letter for unknown)

Answer: Each friend gets \$ \_\_\_\_\_.

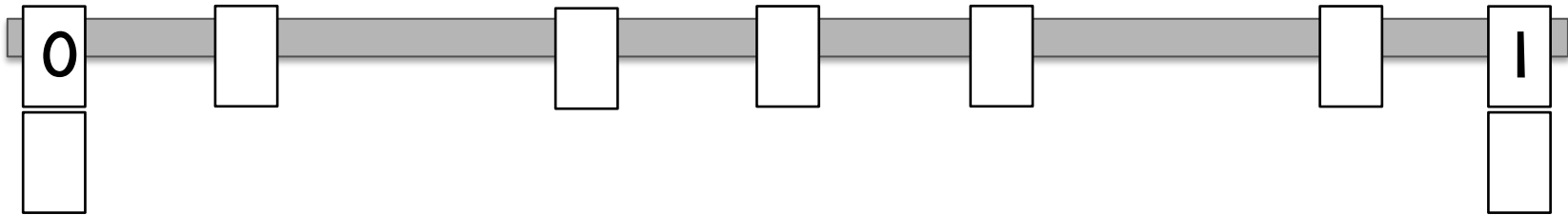


# Lesson 8.7:

Exploration A: How do you plot fractions on a number line?

Plot the following fractions on the number line below.

$\frac{3}{6}$   $\frac{0}{2}$   $\frac{6}{6}$   $\frac{1}{8}$   $\frac{7}{8}$   $\frac{1}{3}$   $\frac{2}{3}$

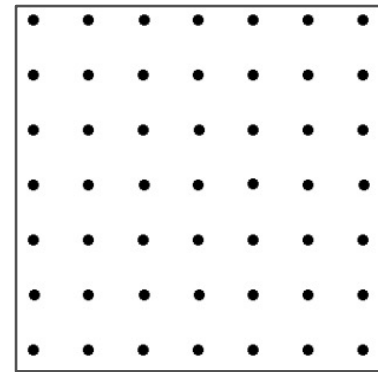


Exploration B: How do you construct a rectangle when given its area?

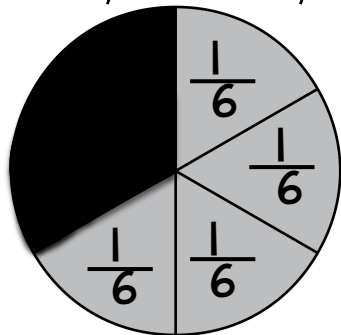
Construct a rectangle with an area of 12 square units.

What is the length of one side? \_\_\_\_\_ units

What is the length of the other side? \_\_\_\_\_ units



Exploration C: How do you identify equivalent fractions using fraction circles?



What fraction of the whole is missing? \_\_\_\_\_

$$\frac{\square}{\square} = \frac{\square}{\square}$$

## Lesson 8.8:

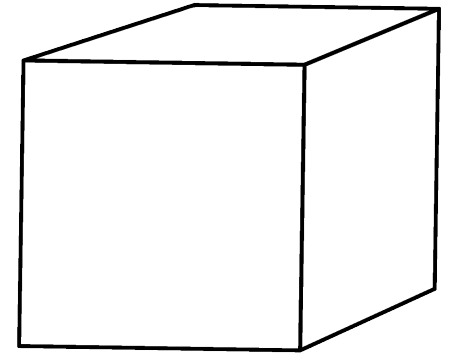
How can you identify prisms given their attributes?

1. Explain why the shape in this picture is a cube.

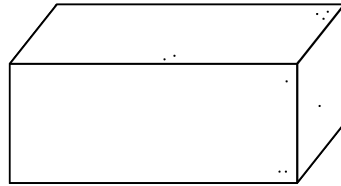
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2. Luke says this is a picture of a triangular prism.



Explain why you agree or disagree?

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# ANSWER KEY

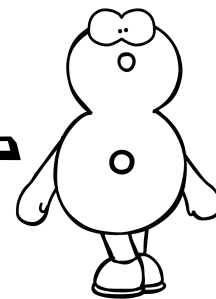


Name: ANSWER KEY

Test Date: \_\_\_ - \_\_\_ - \_\_\_

**Grade 3**

**Everyday Math: Unit**



# Multiplication & Division **Study Guide**

## **Unit Vocabulary:**

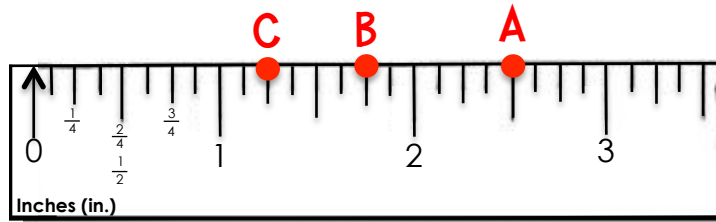
argument, bases, conjecture, edge, extended facts, faces, factor pair, factors, multiple of 10, multiples, plot, polyhedron, prisms, products, 3-dimensional, 2-dimensional, vertex



# Lesson 8.1:

How do you measure to the nearest  $\frac{1}{4}$  inch?

1.



- Make a dot at  $2\frac{1}{2}$  inches from 0. Label it with the letter A.
- Make a dot at  $1\frac{3}{4}$  inches from 0. Label it with the letter B.
- Make a dot at  $1\frac{1}{4}$  inches from 0. Label it with the letter C.

2. Measure the line segment below to the nearest  $\frac{1}{4}$  inch.



about 3  $\frac{1}{4}$  in.

## Lesson 8.2:

What strategies can be used to solve extended multiplication and division facts?

Write a helper fact and use it to help you solve.

a.  $2 \times 70 = \underline{140}$

Fact I used to help:

$$\underline{2 \times 7 = 14}$$

b.  $40 \times 5 = \underline{200}$

Fact I used to help:

$$\underline{4 \times 5 = 20}$$

c.  $6 \times 90 = \underline{540}$

Fact I used to help:

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

Use the helper fact to help you fill in the missing factors.

d. Helper fact:  $9 \times 2 = \underline{18}$

$$90 \times \underline{2} = 180$$

e. Helper fact:  $\underline{30} = 6 \times 5$

$$300 = \underline{60} \times 5$$

f. Helper fact:  $5 \times 5 = \underline{25}$

$$\underline{5} \times 50 = 250$$

## Lesson 8.3:

How do you identify factors of counting numbers?

Write in factor pairs to make the number sentences true.

$$\underline{\quad} \times \underline{\quad} = 12$$

$$16 = \underline{\quad} \times \underline{\quad}$$

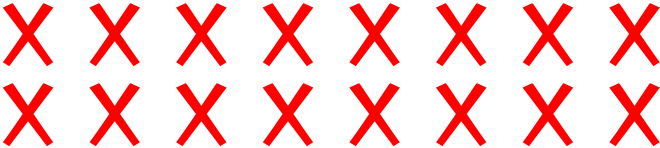

$$\underline{\quad} \times \underline{\quad} = 30$$

**ANSWERS WILL VARY**

## Lesson 8.4:

How do you use clues to make conjectures and arguments to show if the statement is accurate?

1. There are 16 clowns marching in a parade. The clowns are supposed to march in rows with the same amount of clowns in each row. Find two different ways that the clowns can be arranged. Draw a sketch that shows each arrangement.

<p>Sketch #1:</p>  <p>A 2x8 grid of red X's, representing 16 clowns arranged in 2 rows of 8.</p>	<p>Sketch #2:</p>  <p>A 4x4 grid of red X's, representing 16 clowns arranged in 4 rows of 4.</p>
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2. Which way is better. Explain your reasoning.

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**Answers will vary**

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## Lesson 8.5:

How do you find products for a given factor?

1. Here is a *Factor Bingo* game mat. You draw a 3 card.

Circle at least two products with a factor of 3.

10	14	7	6	5
12	11	8	13	24
19	22	15	26	23
29	9	20	17	25
18	28	16	31	21

2. Here is a game mat for *Speed Factor Bingo*.

5	7	8	6	30
12	11	7	40	24
28	22	20	26	23
29	70	20	17	25
10	19	31	16	90

In *Speed Factor Bingo*, a player draws a card and covers all the products that have that number as a factor.

Name a factor card that would allow a player to get a bingo in one turn.

5 or 10

Draw a line through the row, column, or diagonal to show the bingo.



## Lesson 8.6:

How is money shared equally?

Four friends want to share \$52. They have \$10 bills and \$1 bills. They can exchange larger bills for smaller bills if they need to. Write a number model. Use numbers or pictures to show how you solved the problem.

The letter   D   stands for number of dollars each friend gets.

$$52 \div 4 = D \quad \text{or} \quad 4 \times D = 52$$

(number model with letter for unknown)

The diagram illustrates the process of exchanging money. On the left, four friends are shown with \$10 bills, and one friend has a crossed-out \$10 bill. On the right, there is a grid of 12 \$1 bills. Lines connect the \$10 bills to the \$1 bills, showing the exchange process.

\$10	\$10	\$10	\$10	<del>\$10</del>	\$1	\$1
					\$1	\$1
					\$1	\$1
					\$1	\$1
					\$1	\$1
					\$1	\$1

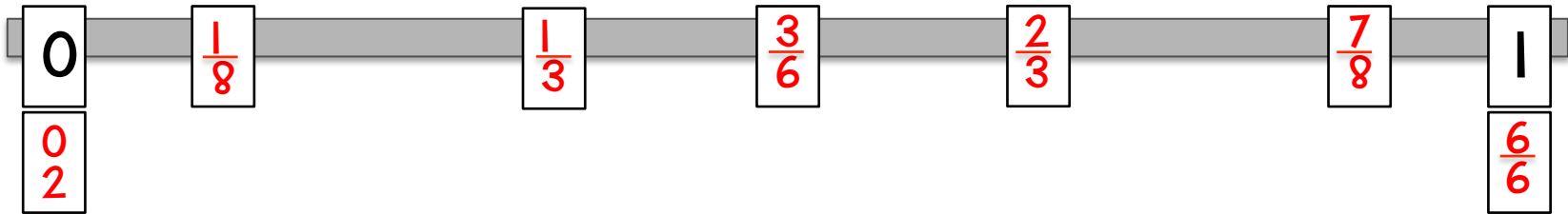
Answer: Each friend gets \$   13  .

# Lesson 8.7:

Exploration A: How do you plot fractions on a number line?

Plot the following fractions on the number line below.

$\frac{3}{6}$	$\frac{0}{2}$	$\frac{6}{6}$	$\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{3}$	$\frac{2}{3}$
---------------	---------------	---------------	---------------	---------------	---------------	---------------

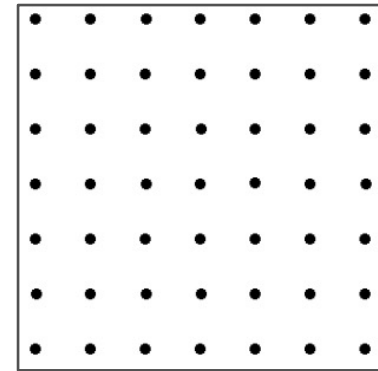


Exploration B: How do you construct a rectangle when given its area? **Answers will vary**

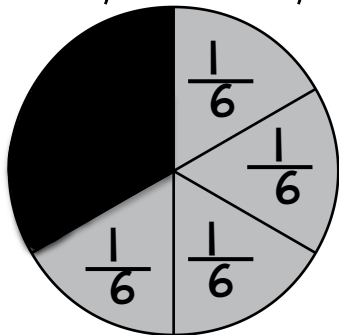
Construct a rectangle with an area of 12 square units.

What is the length of one side? \_\_\_\_\_ units

What is the length of the other side? \_\_\_\_\_ units



Exploration C: How do you identify equivalent fractions using fraction circles?



What fraction of the whole is missing?  $\frac{2}{6}$

$$\frac{2}{6} = \frac{1}{3}$$

## Lesson 8.8:

How can you identify prisms given their attributes?

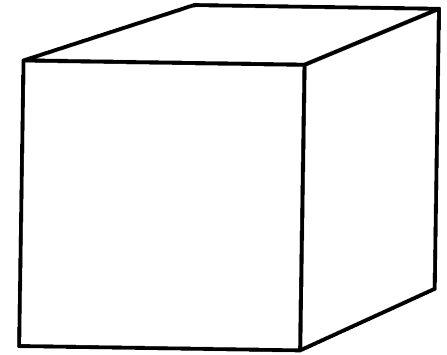
1. Explain why the shape in this picture is a cube.

The shape of its bases are squares.

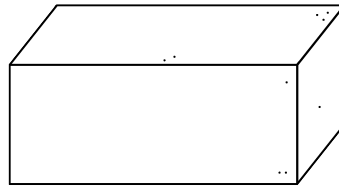
That is why it is called a cube (or a

rectangular prism).

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2. Luke says this is a picture of a triangular prism.



Explain why you agree or disagree?

sample answer: I disagree because its bases

are rectangles.

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