



Mastering the Louisiana
iLEAP Grade 3
in
Mathematics

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Diagnostic Test

Part 1

This section of the test covers estimation. You have three minutes to complete these four questions. You may NOT use a calculator.

1. Which number below is the standard form for $(6 \times 1,000) + (8 \times 100) + (9 \times 10) + (4 \times 1)$?

- A 689
- B 6,100
- C 6,894
- D 60,894

GLE 1

2. Becky has 62 pennies. Her dad empties his pocket and gives her 17 more pennies. How many pennies does Becky have now?

- A 69
- B 79
- C 89
- D 99

GLE 8

3. Allen is at the store and has \$4.00 with him. He wants to buy a toy car for \$2.19 and a package of red pencils for \$1.09. What is a good estimate of the total of the two items, and does Allen have enough money with him to purchase the two items?

- A A good estimate is \$3.00, and yes, he has enough money with him.
- B A good estimate is \$4.00, and yes, he has enough money with him.
- C A good estimate is \$5.00, and no, he does not have enough money with him.
- D A good estimate is \$6.00, and no, he does not have enough with him.

GLE 13

4. $8 \times 4 =$

- A $(8 \times 8) + 4$
- B $(8 + 4) \times 4$
- C 4×8
- D $8 + 4$

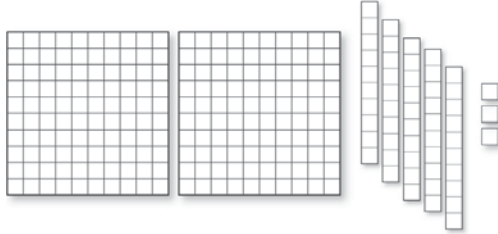
GLE 4

Modeling Numbers

Models and drawings are another way to represent numbers.

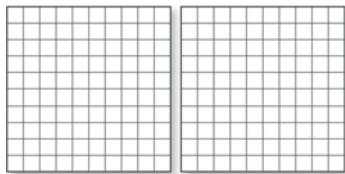
EXAMPLE: Use the model to name the number.

STEP 1: Look at the model. What units are shown?



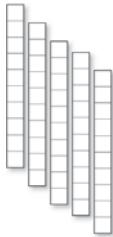
There are hundreds, tens, and ones shown.

STEP 2: Start with the largest place value. Name it.



There are two hundreds shown. 200

STEP 3: Look at the next largest place value shown, and name it.



There are five tens shown. 50

STEP 4: Now look at the next largest place value shown, and name it.



There are three ones shown. 3

STEP 5: Add all the numbers.

$$200 + 50 + 3 = 253$$

ANSWER: 253

Fractions

Fractions are numbers that represent how many parts of a whole number there are. An example of a fraction is $\frac{2}{5}$. The top part of the fraction, 2, is called the **numerator**, which tells how many parts are included. The bottom part of the fraction, 5, is the **denominator**, which tells how many parts in total there are. In the case of $\frac{2}{5}$, the fraction is telling you that 2 out of 5 parts are included.

$$\frac{2}{5} = \frac{\text{numerator}}{\text{denominator}} = \frac{\text{how many parts are included}}{\text{how many parts in total}}$$

Fill in the chart below. Tell which number is the numerator and which number is the denominator for each fraction. The first one is done for you.

	Fraction	Numerator	Denominator
1.	$\frac{1}{3}$	1	3
2.	$\frac{3}{7}$		
3.	$\frac{1}{2}$		
4.	$\frac{9}{10}$		

EXAMPLE: $\frac{1}{10}$ is read one-tenth

EXAMPLE: $\frac{2}{3}$ is read two-thirds

Write out the fractions in word form below.

5. $\frac{5}{6}$ is read _____

6. $\frac{4}{10}$ is read _____

7. $\frac{2}{9}$ is read _____

8. $\frac{1}{4}$ is read _____

Column Subtraction: Borrowing up to 3 Digits

EXAMPLE: Find the difference. $54 - 28 = \square$

STEP 1: Rewrite vertically (\updownarrow) and define columns.

$$\begin{array}{r|l} \text{Tens} & \text{Ones} \\ 5 & 4 \\ - 2 & 8 \\ \hline & \end{array}$$

STEP 2: Subtract each column. Begin with the ones column. Can you take 8 ones away from 4 ones? No! To subtract in the ones column, we have to borrow 10 ones or 1 group of ten from the tens column. Now we can begin to subtract!

$$\begin{array}{r|l} \text{Tens} & \text{Ones} \\ 4 & 14 \\ \cancel{5} & \cancel{4} \\ - 2 & 8 \\ \hline & \end{array}$$

$5 - 1 = 4$ tens $4 + 10 = 14$ ones

STEP 3: Subtract from the ones column.

$$\begin{array}{r|l} \text{Tens} & \text{Ones} \\ 4 & 14 \\ \cancel{5} & \cancel{4} \\ - 2 & 8 \\ \hline & 6 \end{array}$$

STEP 4: Subtract from the tens column.

$$\begin{array}{r|l} \text{Tens} & \text{Ones} \\ 4 & 14 \\ \cancel{5} & \cancel{4} \\ - 2 & 8 \\ \hline 2 & 6 \end{array}$$

ANSWER: 26

Fact Families: Multiplication and Division

A fact family is a group of three numbers which are related through multiplication and division.

EXAMPLE: Find the fact family for 2, 5, and 10.

$$\begin{array}{l} 2 \times 5 = 10 \\ 5 \times 2 = 10 \end{array} \rangle \text{Multiplication Number Sentences}$$

$$\begin{array}{l} 10 \div 2 = 5 \\ 10 \div 5 = 2 \end{array} \rangle \text{Division Number Sentences}$$

Find the fact families for the following numbers.

1. 7, 5, 35

5. 9, 8, 72

9. 42, 6, 7

2. 1, 6, 6

6. 54, 6, 9

10. 5, 40, 8

3. 14, 2, 7

7. 2, 18, 9

11. 7, 8, 56

4. 3, 6, 18

8. 4, 16, 4

12. 48, 8, 6

Which number sentence does not belong to the same fact family as the other three?

13. a. $6 \times 8 = 48$ b. $48 \div 6 = 8$ c. $48 \div 6 = 6$ d. $8 \times 6 = 48$

14. a. $2 \times 7 = 14$ b. $7 \times 2 = 7$ c. $14 \div 7 = 2$ d. $14 \div 2 = 7$

15. a. $36 \div 9 = 4$ b. $9 \times 4 = 36$ c. $4 \times 9 = 39$ d. $36 \div 4 = 9$

Patterns in Tables

Patterns in tables are useful to predict what will come next in a situation.

EXAMPLE: Alex goes bowling once a month and made a chart of his bowling scores for the last 5 months. Look at the table below and decide what comes next if he continues the pattern.

January	48
February	52
March	50
April	54
May	52
June	?

STEP 1: Decide what the number pattern in the chart is. It gets bigger as time goes on. Each number increases by 4, then decreases by 2.
 $48 + 4 = 52$ $52 - 2 = 50$ and so on.

STEP 2: Take the last known number on the chart and add 4.
 $52 + 4 = 56$

ANSWER: 56. Alex’s bowling score for June should be 56 if he continues his pattern.

Look at each of the following tables and fill in the blanks.

- Emily made a table to record her practice on the accordion. How many minutes will Emily practice on day five if she continues the pattern?

Day	Minutes of Practice
1	20
2	15
3	25
4	20
5	

Adding Money

Adding money is the same as adding decimals, but with a \$ sign to represent that you are adding money.

EXAMPLE: Charles bought a pencil that cost \$0.25 and a 3-ring notebook that cost \$2.70. What is the total cost of the pencil and the notebook?

STEP 1: Put the cost of the items in a column and add.

$$\begin{array}{r} \$0.25 \\ + \$2.70 \\ \hline \end{array}$$

STEP 2: Add.

$$\begin{array}{r} \$0.25 \\ + \$2.70 \\ \hline \$2.95 \end{array}$$

ANSWER: \$2.95

Read each problem and add the items of the purchases. Remember to use a \$ sign and a decimal.

1. Rita bought a pair of socks for \$1.25 and a spool of ribbon for \$0.50. What is the total cost of her purchase?
2. Paulo bought a toy car for \$0.99 and a tablet of paper for \$1.00. What is the total cost of his purchase?
3. Luke went to the movies with his brother. His ticket cost \$5.00 and his popcorn cost \$3.75. How much did Luke pay in all?
4. Rebecca and her 3rd grade class went to the zoo on a class trip. Rebecca paid \$4.00 for her ticket to get in the zoo and \$1.50 for cotton candy. How much did Rebecca pay in all?
5. Jamal and his dad went to the store. Jamal’s dad bought a box of cereal for \$2.50 and a carton of milk for \$2.35. What was the total of the two items?

Look at the money below and add it together.

6.  = \$ _____

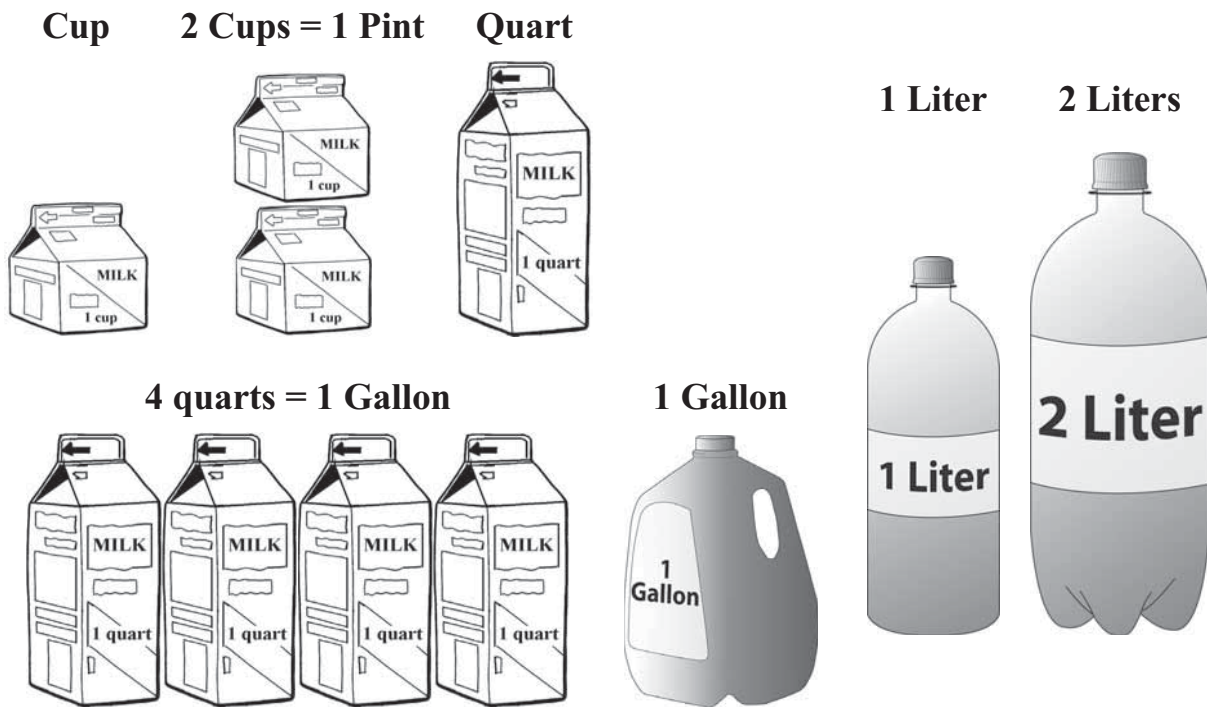
7.  = \$ _____

Capacity

Capacity is how much a container can hold. In the standard system, we commonly use cups, pints, quarts, and gallons. In the metric system, we use liters.

Standard Sizes		Abbreviation	
cup		c	is about one glass of water
pint	= 2 cups	pt	is about 2 glasses of water
quart	= 2 pints	qt	about 4 glasses of water
gallon	= 4 quarts	gal	a large carton of milk

Metric Size	Abbreviation	
liter	L	about 4 glasses of water



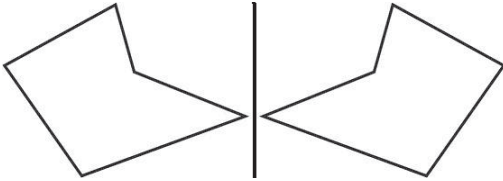
Fill in the chart below using what you know about capacity.

1.		= one glass of milk
2.	1 pint	=
3.		= 2 pints
4.	1 gallon	= _____ quart(s)
5.	1 liter	= about _____ quart(s)

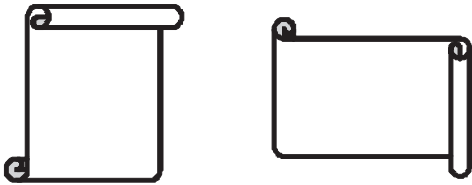
Flips, Turns, and Slides

Flips, turns, and slides are ways to describe movement from one picture to another, of the same object.

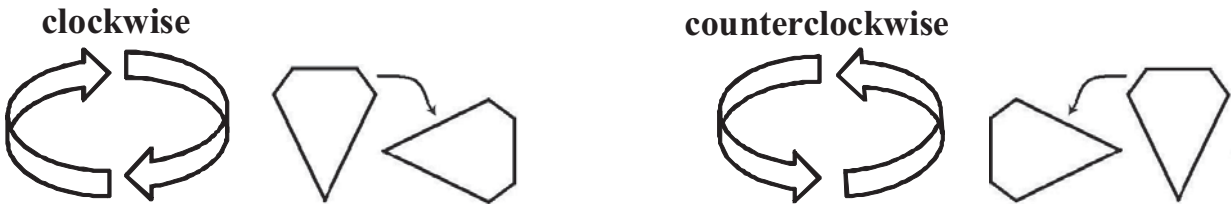
A **flip** looks like the mirror image of the object:



A **turn** of an object is to, for instance, move it from upright to laying down. This is just one turn of an object.



Turns can be made clockwise or counter-clockwise. A clockwise turn goes in the same direction as the hands of a clock does, turning from left to right. A counter-clockwise turn goes in the opposite direction of a clock, turning from right to left like a clock that is running backwards.

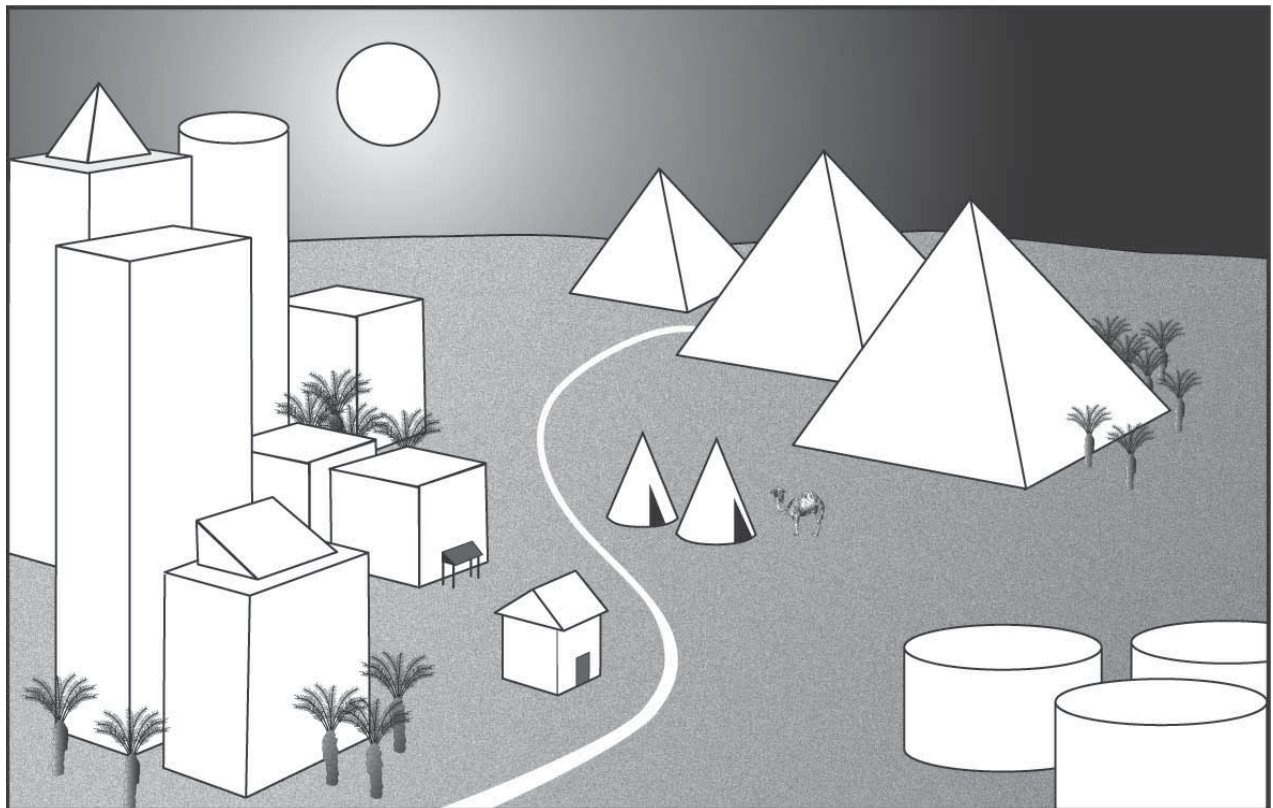


A **slide** is to move the object along the path of a line with out flipping it or turning it.



Read each problem. Color the picture at the bottom of the page.

1. Color all of the rectangular prisms red.
2. Color all of the pyramids brown.
3. Color all of the cones blue.
4. Color all of the cylinders green.
5. Color all of the cubes purple.
6. Color the sphere yellow.

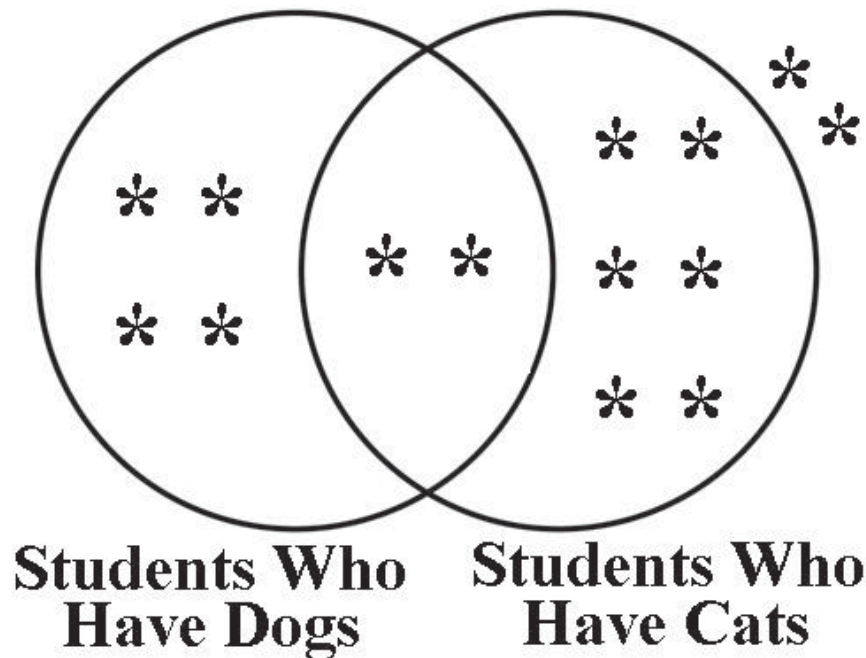


Venn Diagrams

Venn Diagrams are a visual way to see how things are sorted. If the things that are sorted could be put into both categories, the Venn diagram will overlap and include the item in both categories.

EXAMPLE: Fourteen students were asked what kind of pets they have. Four students have a dog. Six students have a cat. Two students have both a dog and a cat. Two students do not have any pets.

Kind of Pets of 14 Students



From the Venn diagram, we can see that 4 students have only dogs because there are 4 *'s in the circle on the side for dogs. We see there are 6 students with only cats because there are 6 *'s in the circle on the side for cats. We see there are 2 students with both a dog and a cat because there are 2 *'s in the center, where the two circles overlap. The overlap area is where both categories count. The two *'s outside of the circles represent the 2 students who do not have any pets. They do not fit into either circle.

Practice Test 1

Part 1

This section of the test covers estimation. You have 3 minutes to complete these 4 questions. You may NOT use a calculator.

1. Which fraction below is five-ninths?

A $\frac{1}{5}$

B $\frac{5}{9}$

C $\frac{1}{9}$

D $\frac{9}{5}$

GLE 3

2. Shawn has 5 times more dollars than his little brother Toby. Toby has 3 dollars. Which number sentence below shows the amount of dollars Shawn has?

A $5 \times 3 = 15$

B $5 + 3 = 8$

C $5 \times 5 = 25$

D $5 + 5 = 10$

GLE 8

3. Abigail has pulled up 118 dandelions. Her sister has pulled up 247 dandelions. How many dandelions have the two girls pulled up in all?

A 118

B 129

C 265

D 365

GLE 11

4. Henry is dividing 18 into groups of 6 by repeated subtraction. Which choice below represents Henry's division?

A $18 - 6 = 12$, $12 - 6 = 6$,
 $6 - 6 = 0$
 $18 \div 6 = 3$

B $18 - 6 - 6 - 6 = 0$
 $18 \div 6 = 0$

C $18 \div 6 \div 6 \div 6 = 1$
 $18 \div 3 = 6$

D $18 - 6 = 12$, $12 \div 6 = 2$
 $18 \div 6 = 2$

GLE 6

Practice Test 2

Part 1

This section of the test covers estimation. You have 3 minutes to complete these 4 questions. You may NOT use a calculator.

1. What is the expanded form of the number 9,213?

- A $(9 \times 1,000) + (2 \times 100) + (1 \times 10) + (3 \times 1)$
- B $(9 \times 1,000) + (3 \times 100) + (1 \times 10) + (2 \times 1)$
- C $(9 \times 1,000) + (1 \times 100) + (2 \times 10) + (3 \times 1)$
- D $(9 \times 1,000) + (3 \times 100) + (2 \times 10) + (1 \times 1)$

GLE 1

2. Which operation is correct for 14 pebbles less 6 pebbles?

- A +
- B -
- C \times
- D \div

GLE 8

3. Sue is trying to get an estimate of how much a pound of apples costing \$1.09 plus a loaf of bread costing \$1.89 will be. Which of the amounts below is a good estimate?

- A \$2.00
- B \$3.00
- C \$4.00
- D \$5.00

GLE 13

4. $(3 \times 2) \times 6 =$

- A $3 \times (3 \times 2)$
- B $(3 \times 6) \times 3$
- C $3 \times (2 \times 6)$
- D $(3 \times 2) \times 2$

GLE 4