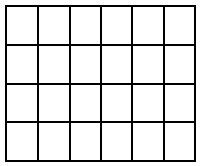
3rd Grade GA Milestones Study Guide

Operations & Algebraic Thinking 25%

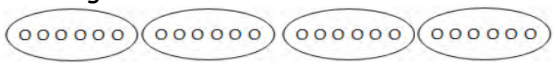
Multiplication & Division

There are 24 desks in the classroom. If the teacher puts 6 desks in each row, how many rows are there? **4 rows of desks**

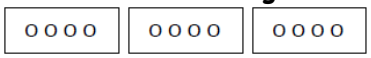
Array Model



Drawing Pictures



There are 12 cookies on the counter. If you are sharing the cookies equally among three bags, how many cookies will go in each bag?
4 cookies in each bag



There are 12 cookies on the counter. If you put 3 cookies in each bag, how many bags will you fill?
4 bags

Repeated Subtraction

12 – 3 – 3 – 3 – 3 = 0 **so** 12 ÷ 3 = 4

Finding the **Unknown**: 4 × ? = 40

- 4 groups of some number is the same as 40.
- I know that 4 groups of 10 is 40 so the unknown number is 10.

Multiplication and Division are ***inverse operations***! **12 ÷ 4 = 3 and 4 x 3 = 12**

THINK: Division as an unknown factor problem

32 ÷ 8 = is the same as 8 x ? = 32

Commutative Property: *If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known.*

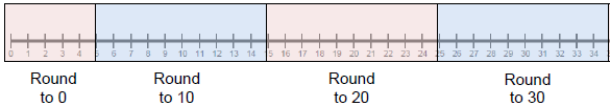
Associative Property: *3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30*

Distributive Property: *Knowing that 3 × 5 =15 and 3 × 4 = 12, one can find 3 x 9 as 3 × (5 + 4) = (3 × 5) + (3 × 4) = 15 + 12 = 27*

Numbers and Operations 35%

Rounding

Round 27 to the nearest 10.



27 is closer to **30** than 20.

Addition & Subtraction

There are 178 fourth graders and 225 fifth graders on the playground. What is the total number of students on the playground?

Student 1

100 + 200 = 300
70 + 20 = 90
8 + 5 = 13
300+90+13 = 403 students

Student 2

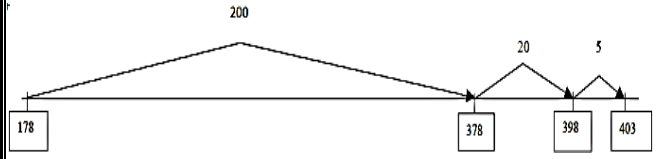
I added 2 to 178 to get 180. I added 220 to get 400. I added the 3 left over to get 403.

Student 3

I know the 75 plus 25 equals 100. Then I added 1 hundred from 178 and 2 hundreds from 275. I had a total of 4 hundreds and I had 3 more left to add. So I have 4 hundreds plus 3 more which is 403.

Student 4

178 + 225 = ?
178 + 200 = 378
378 + 20 = 398
398 + 5 = 403



Multiplying by multiples of 10

Estimation

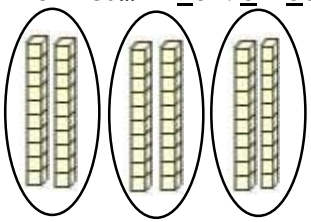
329 + 175 =

329 is about 300 and 175 is about 200, so the answer is about 500

488 - 87 =

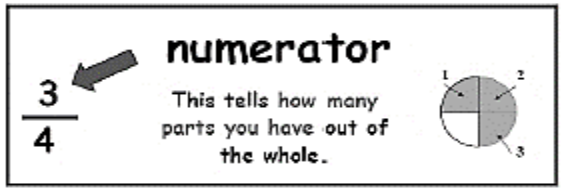
488 is about 500 and 87 is about 100, so the answer is about 400

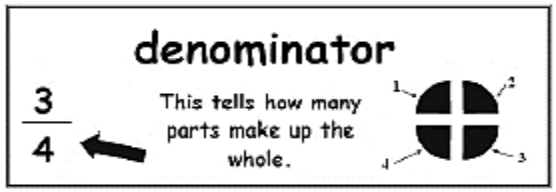
2 x 3 = 6 so… 20 x 3 = 60



3 groups of 2 tens = 6 tens or 60

Fractions





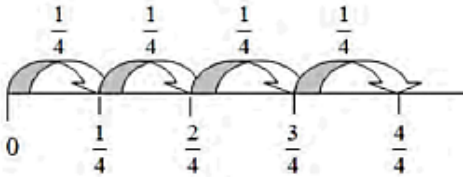
Example

These are thirds.

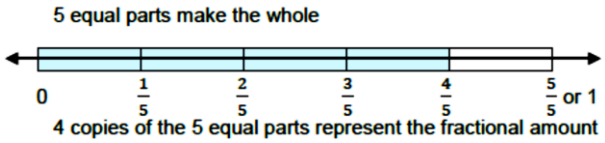
Non-example

These are not thirds.

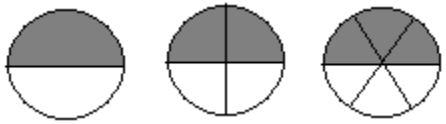
Number Line Diagram



This is four-fifths on a number line. (below)



Equivalent Fractions

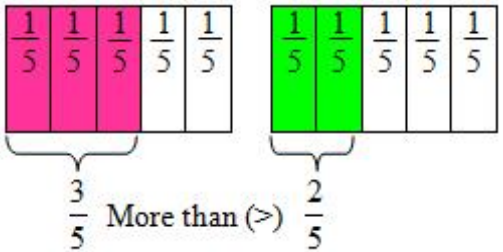


$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$

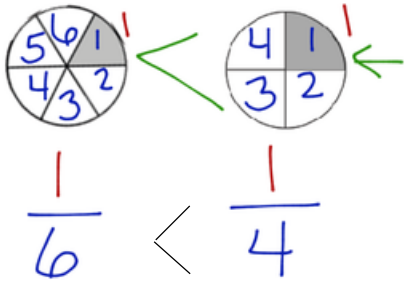
If 6 brownies are shared between 2 people, how many brownies would each person get?

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

Comparing Fractions

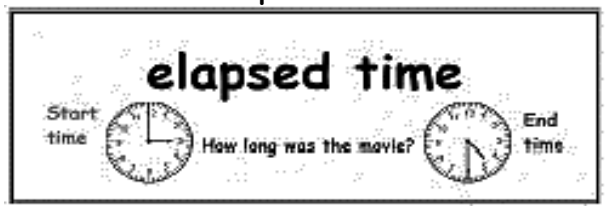


One-sixth is less than one-fourth because sixths represent a smaller fractional piece.

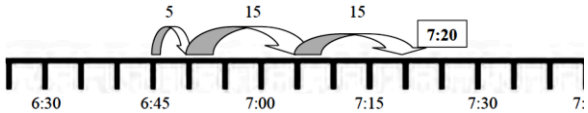


Measurement & Data 30%

Elapsed Time

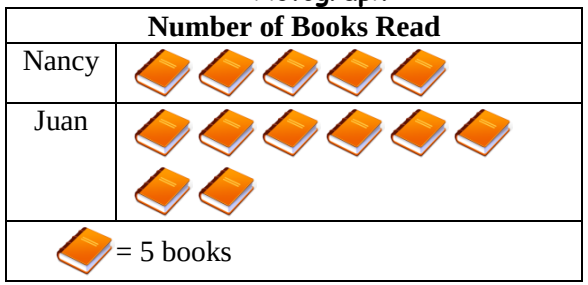


Tonya wakes up at 6:45 a.m. It takes her 5 minutes to shower, 15 minutes to get dressed, and 15 minutes to eat breakfast. What time will she be ready for school? *7:20*

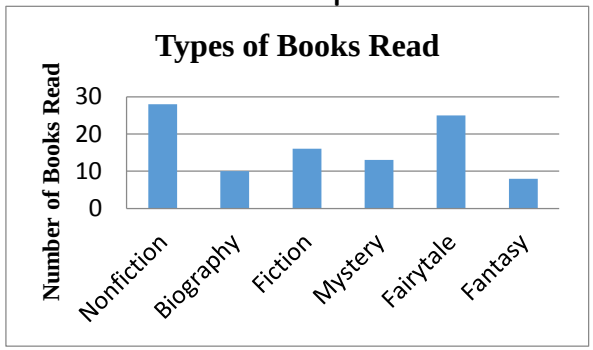


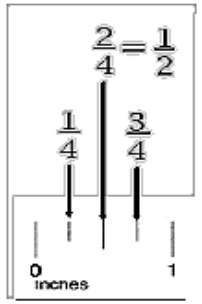
1 kilogram = 1,000 grams

Pictograph



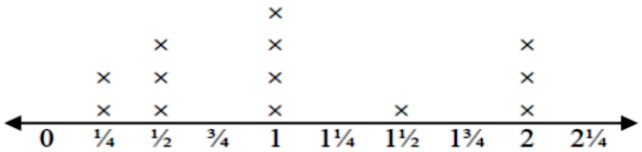
Bar Graph





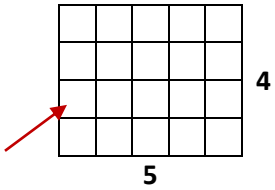
Measure to the nearest quarter inch and half inch

Objects on My Desk



Measurements in Inches

Area



One square unit

To find the area, one could count the squares or multiply 3 × 4 = 12.

1	2	3	4
5	6	6	8
9	10	11	12

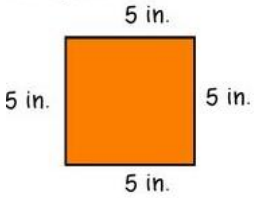
Drew wants to tile the bathroom floor using 1 foot tiles. How many square foot tiles will he need?

6 feet

8 feet

6 x 8 = 48 square foot tiles

Perimeter: measurement of the distance around an object

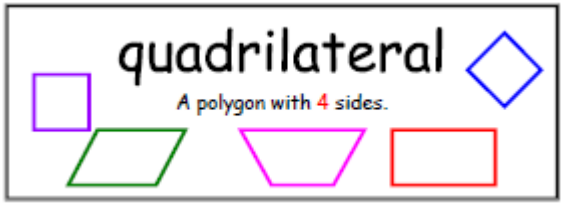


p= s + s + s + s

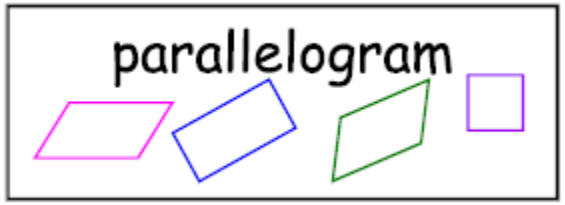
p = 5 + 5 + 5 + 5

p = 20 in.

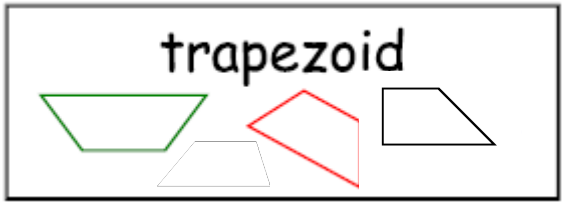
Geometry 10%



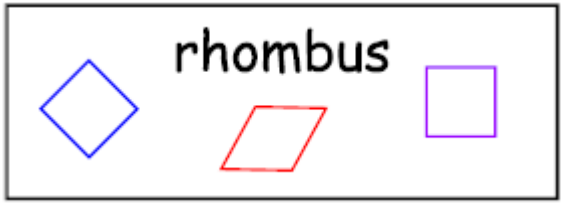
A quadrilateral is any four sided figure.



A parallelogram has 2 sets of parallel sides.

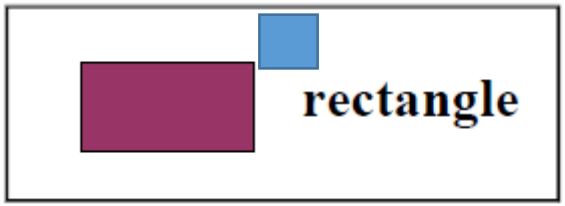


A trapezoid has *at least* one set of parallel sides.



The rhombus has two sets of parallel sides and all sides the same length.

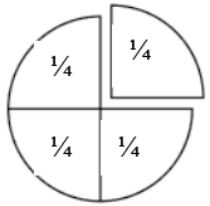
The square has two sets of parallel sides, all sides the same length and 4 right angles.



The rectangle has two sets of parallel sides and 4 right angles.

Partitioning Shapes

This figure was partitioned/divided into four equal parts. Each part is $\frac{1}{4}$ of the total area of the figure.



$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

1 / 4
1 / 4
1 / 4
1 / 4

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$