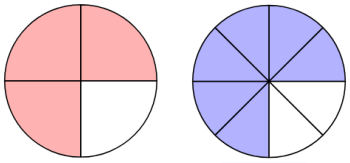
Lesson # 29

Equivalent Fractions

Date

Warmup

1. What fraction of the circles are shaded?



___ ___

2. Evaluate each expression for x = 3, y = 6, and z = -1

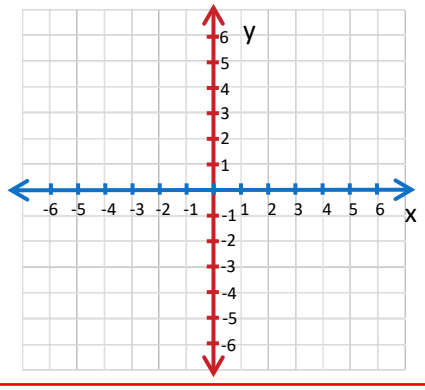
y+x y+z z-y x-y

3. *Solve and Check*

$3.4\,p = 5.1$

4. Plot the points

A:(5,−1),B:(2,4),C:(0,−3),D:(−4,−3)



5. Write the next three terms in the sequence

6, 60, 600, _____,

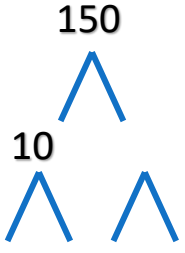
_____, _____

The sequence is

- ❑ arithmetic
- ❑ geometric
- ❑ Neither

The common ratio is _____

6. What is the prime factorization of 150?

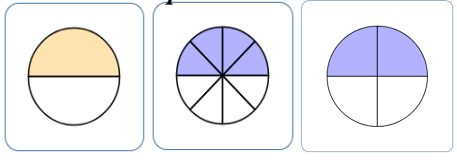


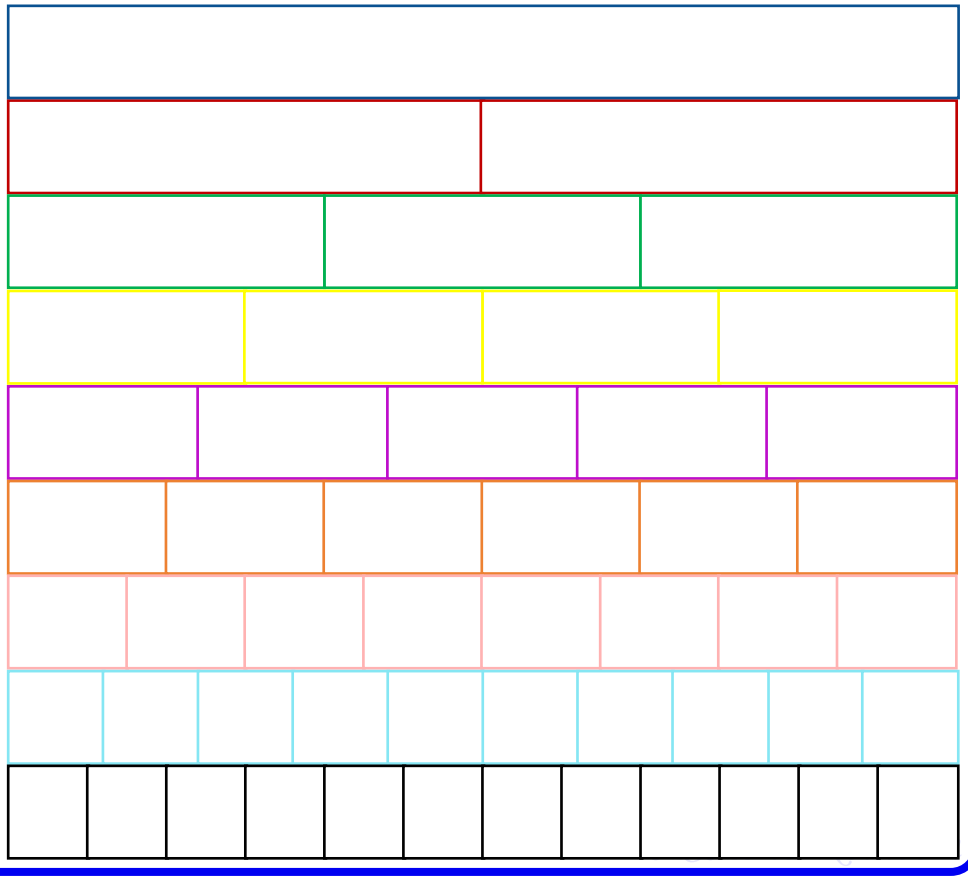
I. Fractions

Label the top and bottom of a fraction with their proper names.

_____

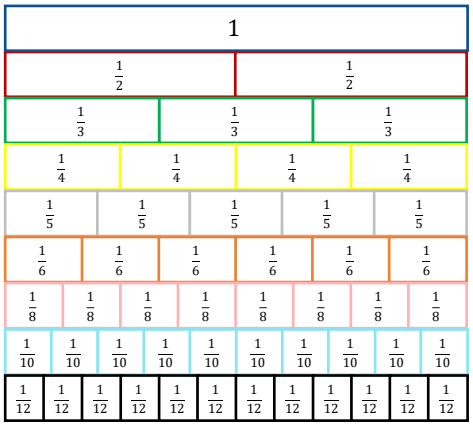
Identify each Fraction, then compare their values





Write 5 fractions equivalent with 1

$1 = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$



Fractions Equal to 1: A fraction is equal to one when the numerator = denominator.

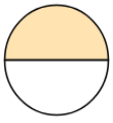
$$\frac{numerator}{denominator}$$

II. Equivalent Fractions

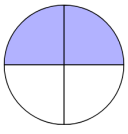
What number can we multiply by and not change the value?

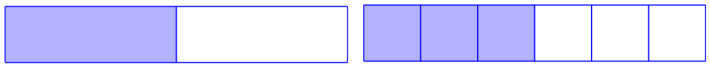
What property does this represent?

$\frac{1}{2} \cdot \frac{\quad}{\quad} = \frac{1}{2}$



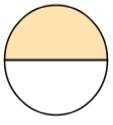
$\frac{1}{2} \cdot \frac{2}{2} = \frac{\quad}{\quad}$

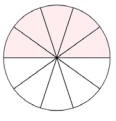




$\frac{1}{2} \cdot \frac{\quad}{\quad} = \frac{1}{2}$

$\frac{1}{2} \cdot \frac{3}{3} = \frac{\quad}{\quad}$





$\frac{1}{2} \cdot \frac{\quad}{\quad} = \frac{1}{2}$

$\frac{1}{2} \cdot \frac{5}{5} = \frac{\quad}{\quad}$

Find the missing numerator to make equal fractions.

$\frac{4}{5} \cdot \frac{\quad}{\quad} = \frac{\quad}{30}$

$\frac{2}{7} \cdot \frac{\quad}{\quad} = \frac{\quad}{42}$

11. $\frac{2}{3} = \frac{\quad}{30}$

12.

Find the missing numerator to make equal fractions.

$\frac{1}{8} \cdot \frac{4}{4} = \frac{4}{\quad}$

$\frac{3}{4} \cdot \frac{\quad}{\quad} = \frac{\quad}{20}$

13. $\frac{7}{9} = \frac{49}{\quad}$

14.

Equivalent Fractions: Fractions that are equal, or have the same value, are called equivalent fractions.

$\frac{1}{2} \cdot \frac{6}{6} = \frac{6}{12}$ Multiply the numerator and denominator of the fraction by the same number.

III. Reduce Fractions to Simplest Form

At a group pizza party Samantha asked for $\frac{4}{16}$ of a pizza. How much of the pizza did she want?

$\frac{4}{16} = \frac{2 \cdot 2}{2 \cdot 2 \cdot 2 \cdot 2} = $ —

The prime factorization of 4 is $2 \cdot 2$ and 16 is $2 \cdot 2 \cdot 2 \cdot 2$, the numerator must have a value, therefore use ___
The denominator is $2 \cdot 2 =$ _____

$\frac{4}{16} = \frac{4 \cdot 1}{4 \cdot 4} = $ —

The GCF (Greatest Common Factor) of 4 and 16 is 4.
Write the numerator as a product of the GCF and a factor ($4 \cdot 1 = 4$)
Write the denominator as a product of the GCF and a factor ($4 \cdot 4 = 16$)
$\frac{4}{4} = 1$ Cancel the fourths. The answer is _____

15. Find the GCF

Reduce using the GCF

$\frac{24}{40} =$ _____ $=$ —

15. Reduce using the GCF

$\frac{12}{28} =$ _____ $=$ —

Simplify the Fractions using prime factorization

$\frac{2}{4} = \frac{1 \cdot 2}{2 \cdot 2} = \frac{1}{2} \cdot \frac{2}{2}$

$\frac{5}{10} = \frac{1 \cdot 5}{2 \cdot 5} = $ —

$\frac{33}{60} =$ _____ $=$ —

17. Simplify the fraction using prime factorization

$\frac{15}{150} =$

18. Write the fraction in simplest form

Fractions in Simplest : Fractions are called simplified when the GCF of the numerator and the denominator is 1.

$\frac{1}{2}$ and $\frac{9}{17}$ are both written in simplest form

Circle the fractions that are written in simplest form.

$\frac{2}{2}$ $\frac{3}{9}$ $\frac{23}{100}$ $\frac{7}{63}$ $\frac{200}{500}$

IV. Practice

19	20
21	22
23	24

25	26
27	28
29	30
31	32
33	34