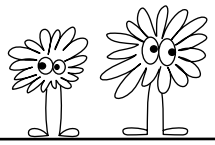
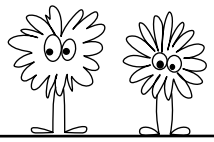
FRACTION NINJA BOOTCAMP LEVEL 2



COMMON FACTORS



For each pair of numbers, find the greatest common factor.

24, 34

56, 35

80, 55

60, 42

90, 81

54, 84

Here is a cool way to find the greatest common factor of two numbers by writing each number as a product of prime facts. (Prime numbers can't be broken down into a product of smaller numbers.)

To get the greatest common factor of 150 and 400, we

1. Write each number as a product of primes.

$$150 = 2\times3\times5\times5 \quad \text{and} \quad 400 = 2\times2\times2\times2\times5\times5$$

2. Find all the prime factors that were in common.

$$150 = 2\times3\times5\times5 \quad \text{and} \quad 400 = 2\times2\times2\times2\times5\times5$$

3. Multiply out the prime factors that were in common to get the greatest common factor.

$2\times5\times5 = 50$ is the greatest common factor of 150 and 400.

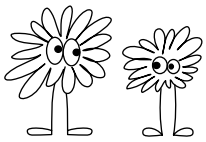
Let's try this trick to find the greatest common factor of 60 and 96.

1. $60 = 2\times2\times3\times5$ and $96 = 2\times2\times2\times2\times2\times3$
2. The factors in common are $2\times2\times3$.
3. The greatest common factor of 60 and 96 is $2\times2\times3 = 12$.

For each pair of numbers, find the greatest common factor. Can you do it using the technique described above?

240, 75

112, 128



SIMPLIFYING FRACTIONS

$\frac{8}{24} =$ $\frac{40}{48} =$ $\frac{21}{33} =$

$\frac{54}{72} =$ $\frac{66}{70} =$ $\frac{56}{77} =$

$\frac{32}{80} =$ $\frac{25}{80} =$ $\frac{8}{28} =$

$\frac{20}{25} =$ $\frac{12}{36} =$ $\frac{15}{50} =$

$\frac{13}{26} =$ $\frac{6}{54} =$ $\frac{18}{45} =$

$\frac{64}{100} =$ $\frac{45}{80} =$ $\frac{15}{33} =$

$\frac{36}{56} =$ $\frac{12}{66} =$ $\frac{24}{100} =$

$\frac{22}{30}$ =

$\frac{48}{100}$ =

$\frac{16}{26}$ =

$\frac{62}{100}$ =

$\frac{28}{56}$ =

$\frac{36}{44}$ =

$\frac{72}{80}$ =

$\frac{6}{46}$ =

$\frac{60}{144}$ =

Simplified Fraction Maze

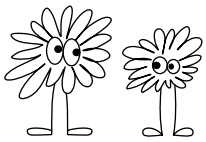
Travel through the maze by only visiting fractions that are in simplified form.

$\frac{4}{22}$	$\frac{9}{86}$	$\frac{17}{60}$	$\frac{3}{76}$	$\frac{13}{56}$	$\frac{9}{109}$	$\frac{7}{38}$	$\frac{4}{49}$	$\frac{59}{77}$	$\frac{3}{6}$	$\frac{63}{72}$	$\frac{4}{5}$
$\frac{50}{75}$	$\frac{2}{75}$	$\frac{14}{35}$	$\frac{2}{62}$	$\frac{65}{85}$	$\frac{70}{77}$	$\frac{10}{25}$	$\frac{4}{10}$	$\frac{12}{37}$	$\frac{52}{89}$	$\frac{49}{63}$	$\frac{7}{95}$
$\frac{25}{45}$	$\frac{33}{100}$	$\frac{15}{26}$	$\frac{1}{96}$	$\frac{38}{53}$	$\frac{3}{8}$	$\frac{99}{101}$	$\frac{36}{61}$	$\frac{20}{30}$	$\frac{1}{2}$	$\frac{5}{156}$	$\frac{49}{92}$
$\frac{16}{18}$	$\frac{26}{66}$	$\frac{19}{38}$	$\frac{13}{39}$	$\frac{20}{42}$	$\frac{90}{108}$	$\frac{15}{42}$	$\frac{42}{81}$	$\frac{3}{34}$	$\frac{21}{56}$	$\frac{55}{66}$	$\frac{45}{50}$
$\frac{33}{43}$	$\frac{1}{11}$	$\frac{21}{26}$	$\frac{6}{11}$	$\frac{33}{45}$	$\frac{18}{33}$	$\frac{10}{18}$	$\frac{3}{33}$	$\frac{13}{59}$	$\frac{43}{70}$	$\frac{8}{83}$	$\frac{56}{75}$
$\frac{4}{21}$	$\frac{15}{21}$	$\frac{33}{55}$	$\frac{45}{49}$	$\frac{42}{49}$	$\frac{20}{55}$	$\frac{12}{24}$	$\frac{9}{90}$	$\frac{5}{15}$	$\frac{65}{80}$	$\frac{36}{81}$	$\frac{28}{41}$
$\frac{13}{15}$	$\frac{24}{44}$	$\frac{7}{69}$	$\frac{17}{31}$	$\frac{62}{66}$	$\frac{36}{54}$	$\frac{6}{8}$	$\frac{60}{75}$	$\frac{100}{110}$	$\frac{81}{90}$	$\frac{4}{28}$	$\frac{22}{25}$
$\frac{3}{7}$	$\frac{88}{90}$	$\frac{3}{56}$	$\frac{32}{58}$	$\frac{42}{48}$	$\frac{8}{18}$	$\frac{21}{42}$	$\frac{28}{32}$	$\frac{11}{66}$	$\frac{6}{32}$	$\frac{16}{24}$	$\frac{3}{83}$
$\frac{1}{5}$	$\frac{30}{42}$	$\frac{29}{34}$	$\frac{3}{14}$	$\frac{5}{18}$	$\frac{24}{43}$	$\frac{36}{49}$	$\frac{17}{99}$	$\frac{12}{67}$	$\frac{7}{76}$	$\frac{3}{5}$	$\frac{1}{99}$

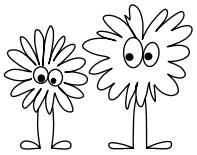
exit →

enter →

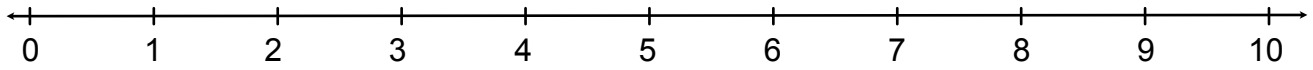
SCIENCE MOM



MIXED NUMBERS ON THE NUMBER LINE

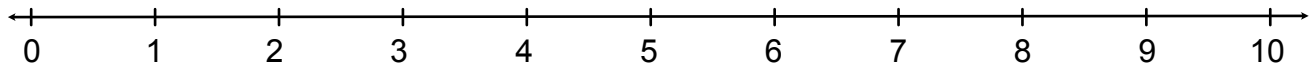


Label each number on the number line.



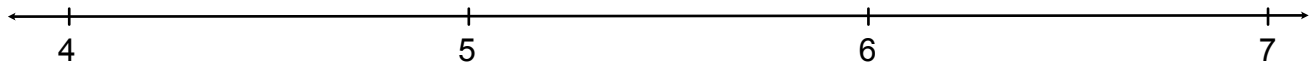
$2\frac{1}{2}$ $5\frac{1}{3}$ $1\frac{2}{5}$ $7\frac{5}{6}$ $4\frac{1}{2}$ $6\frac{3}{4}$

Label each number on the number line.



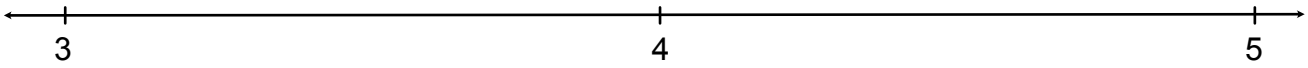
$4\frac{1}{4}$ $9\frac{2}{3}$ $2\frac{3}{5}$ $1\frac{1}{3}$ $8\frac{2}{5}$ $5\frac{1}{4}$

Label each number on the number line.



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

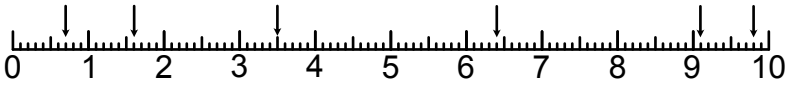
Label each number on the number line.



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

Inches are a unit of measure that usually gets broken up into 16 equal pieces. Below is a ruler measured in inches. Label each of the arrows with the appropriate fraction. (Be sure to simplify the fraction.)

Centimeters are a unit of measure that usually gets broken up into 10 equal pieces (called millimeters). Below is a 10-centimeter ruler that has locations marked with arrows. Label each arrow with the appropriate fraction. (Be sure to simplify the fraction.)



Do you prefer inches or centimeters as a unit of measurement? Explain why.

CONVERTING FRACTIONS TO MIXED NUMBERS

Convert each fraction to a mixed number.

$\frac{25}{3}$

$\frac{29}{5}$

$\frac{66}{9}$

$\frac{43}{4}$

$\frac{51}{7}$

$\frac{37}{3}$

$\frac{60}{11}$

$\frac{60}{8}$

$\frac{93}{12}$

$\frac{81}{10}$

$\frac{19}{4}$

$\frac{31}{7}$

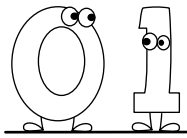
Convert each fraction to a mixed number.

$$\frac{257}{3}$$

$$\frac{214}{7}$$

$$\frac{3{,}434}{5}$$

$$\frac{123{,}456{,}789}{10}$$



CONVERTING MIXED NUMBERS TO FRACTIONS

Convert each mixed number to a fraction.

$11\frac{1}{2}$

$20\frac{1}{3}$

$6\frac{3}{5}$

$8\frac{5}{6}$

$12\frac{3}{7}$

$15\frac{2}{3}$

$5\frac{9}{10}$

$9\frac{6}{11}$

$1\frac{13}{20}$

$6\frac{2}{7}$

$4\frac{11}{12}$

$20\frac{3}{4}$

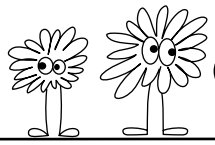
Convert each mixed number to a fraction.

$125\frac{2}{5}$

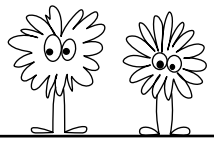
$100\frac{7}{12}$

$136\frac{72}{73}$

$99\frac{23}{101}$



COMPARING FRACTIONS



In each box, declare whether the fractions are “=”, “<”, or “>” to each other.

$\frac{8}{24} \square \frac{9}{25}$ $\frac{6}{32} \square \frac{12}{16}$ $\frac{14}{50} \square \frac{21}{60}$

$\frac{45}{54} \square \frac{10}{12}$ $\frac{21}{35} \square \frac{3}{5}$ $\frac{15}{35} \square \frac{5}{11}$

$\frac{36}{88} \square \frac{10}{25}$ $\frac{24}{36} \square \frac{12}{18}$ $\frac{11}{28} \square \frac{4}{14}$

$\frac{12}{24} \square \frac{22}{44}$ $\frac{14}{22} \square \frac{2}{3}$ $\frac{35}{40} \square \frac{9}{10}$

$\frac{6}{11} \square \frac{30}{55}$ $\frac{4}{48} \square \frac{10}{80}$ $\frac{23}{29} \square \frac{31}{41}$

$\frac{20}{120} \square \frac{6}{40}$ $\frac{26}{52} \square \frac{3}{6}$ $\frac{22}{24} \square \frac{23}{25}$

Place the following numbers in ascending order (from least to greatest).

$$\frac{3}{7} \quad \frac{5}{6} \quad \frac{1}{2} \quad \frac{2}{5} \quad \frac{4}{9} \quad \frac{5}{8}$$

Place the following numbers in ascending order (from least to greatest).

$$4\frac{11}{12} \quad 5\frac{1}{4} \quad 6\frac{4}{7} \quad 4\frac{1}{3} \quad 5\frac{5}{6} \quad 4\frac{3}{7}$$

Place the following numbers in ascending order (from least to greatest).

$$\frac{43}{7} \quad \frac{15}{2} \quad \frac{35}{4} \quad \frac{27}{6} \quad \frac{77}{12} \quad \frac{53}{9}$$

Place the following numbers in ascending order (from least to greatest).

$$6\frac{4}{7} \quad \frac{60}{9} \quad 8\frac{1}{4} \quad \frac{240}{30} \quad \frac{77}{10} \quad 6\frac{11}{12}$$