

Ms. Jan's instructions:

Carefully calculate, record common fraction, simplify, convert to decimal fraction, and place decimal correctly.

Eg. 0.3 x 0.15 = $\frac{3}{10}$ x $\frac{15}{100}$ = $\frac{45}{1000}$ = 0.045

$$\begin{array}{r} 0.15 \\ \times 0.3 \\ \hline 0.045 \end{array}$$

1. 0.4 x 0.5 = _____ x _____ = _____ = _____ = _____

2. 0.5 x 0.8 = _____ x _____ = _____ = _____ = _____

3. 0.5 x 0.5 = _____ x _____ = _____ = _____ = _____

4. 0.5 x 0.1 = _____ x _____ = _____ = _____ = _____

5. 0.42 x 0.3 = _____ x _____ = _____ = _____ = _____

6 0.36 x 0.4 = _____ x _____ = _____ = _____ = _____

7. 0.123 x 0.2 = _____ x _____ = _____ = _____ = _____

8. 0.456 x 0.3 = _____ x _____ = _____ = _____ = _____

9. 0.32 x 0.7 = _____ x _____ = _____ = _____ = _____

10. 0.6 x 0.9 = _____ x _____ = _____ = _____ = _____

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Interpreting Remainders

Goal

Decide how to treat the remainder in a division problem.

1. 75 students travel by minivan to an amusement park. Each minivan can take 6 students. How many minivans are needed?

2. 75 slices of pizza were eaten. Each pizza was cut into 6 slices. How many pizzas were eaten?

_____2_____

3. 75¢ is to be shared equally among 6 students.

a) How much will each student get?

_____¢

b) How much money will be left over?

_____¢

4. Tickets costing \$3 each were bought with \$125.

a) How many tickets were bought?

b) How much was the change?

\$_____

5. One car of an amusement park ride holds 4 people. 62 people take the ride. How many cars are needed?

6. 50 pictures are put in an album. Each page holds 4 pictures.

a) Exactly how many pages are used?

_____2_____

b) How many pages are full?

c) How many pages are needed?

Notes

The meaning of the remainder depends on what the problem asks.

4 different problems could be solved by $75 \div 6 = 12 \text{ R}3$.

The answers could be 12, 13, 12^1 , and 3. (See an example of each in Questions 1 to 3.)

Making Skeleton Models

Goal

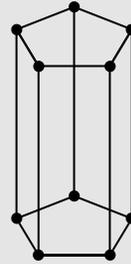
Build 3-D skeletons and describe relationships between edges and vertices.

You will need toothpicks and modelling clay, miniature marshmallows, or something else to stick the toothpicks into.

- To build 3-D skeletons, you can use modelling clay or miniature marshmallows to represent _____ and toothpicks to represent _____.
- Make as many skeletons of 3-D shapes as you can. Use 4 vertices, 5 vertices, and 6 vertices. Count the edges in each shape. Record each shape in the chart.
Answers will vary. For example:

Notes

A **skeleton** of a 3-D shape has only edges and vertices.



Shape number	Number of vertices	Number of edges
1	4	—
2	5	—
3	6	—
4	6	—
5	6	—

- For which number of vertices could you make more than 1 shape?
Should be able to make more with _____ vertices.
- Did any of your shapes have more vertices than edges? _____
- Did any of your shapes have the same number of vertices as edges?

Fractions of a Set

Goal

Describe parts of sets using proper and improper fractions and mixed numbers.

Use toothpicks, bread tags, or other counters to help you if necessary.

- 1 Liza is writing thank-you cards. They come in packages of 8. She has used $1\frac{3}{8}$ of a package.

a) How many cards has she used? _____

b) What improper fraction describes $1\frac{3}{8}$ of a package? _____

- 2 Mollie is putting pop cans in cartons. She puts 12 cans in each carton.

a) Write the mixed number that describes how many cartons she can fill with 37 cans.

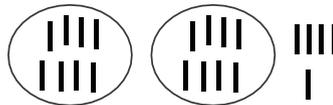
b) Write this amount as an improper fraction. _____

- 3 Write the mixed number for each improper fraction. Then draw pictures of toothpicks to show the mixed number as sets and parts of sets.

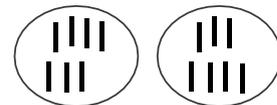
a) $\frac{15}{10}$ _____



b) $\frac{21}{8}$ _____



c) $\frac{14}{7}$ _____



- 4 Arrange these numbers in order from least to greatest.

a) $\frac{6}{3}$, $\frac{1}{3}$, $\frac{8}{3}$, $\frac{4}{3}$, $\frac{10}{3}$ _____

b) $1\frac{1}{5}$, $\frac{4}{5}$, $2\frac{4}{5}$, $\frac{7}{5}$, $\frac{15}{5}$ _____

Notes

Mixed numbers and improper fractions can be used to describe parts of sets.

For example, eggs come in cartons of 12.

14 eggs could be described as a mixed number, $1\frac{2}{12}$, or as an improper fraction, $\frac{14}{12}$.

Making Predictions

Goal Make predictions and design and carry out experiments.

1. **a)** Cut out 10 strips of paper. Write a boy's name on each of 5 strips. Write a girl's name on each of the other 5 strips. Put the 10 strips in a paper bag.
- b)** Predict the number of girls' names and boys' names you will draw in 20 draws.
girls' names _____ boys' names _____
- c)** Draw a strip from the bag. Use the tally chart to record whether the strip has a boy's name or a girl's name. Put the strip back in the bag.
- d)** Repeat part c) 19 times.
- e)** Compare your results to your prediction.

Your results will vary from one another.

2. In another experiment with 10 strips of names in a bag, you want drawing

- a boy's name to be very probable
- a girl's name to be very improbable

- a)** Decide how many boys' names and how many girls' names you will use. Then make the strips to match what you decided. Put the 10 strips in a paper bag.

Answers will vary. For example, 7, 8, or 9 boys.

- b)** Repeat parts b) to e) from Question 1. girls' names _____ boys' names _____
- c)** Did your bag meet the conditions? _____

Your results will vary from one another.

Notes

The probability of a boy's name or a girl's name being drawn from a bag is related to how many of each are in the bag. The more girls' names there are, the higher the probability that a girl's name will be drawn.

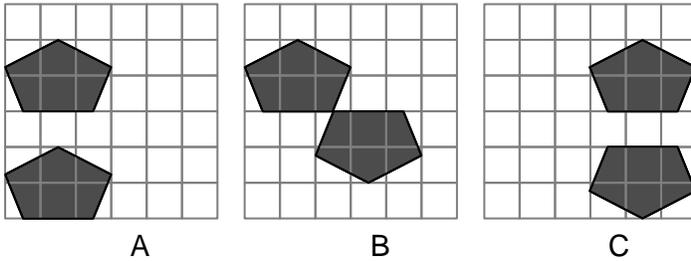
Draw	Question 1 boy or girl	Question 2 boy or girl
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

Rotating Shapes



Use and describe rotations.

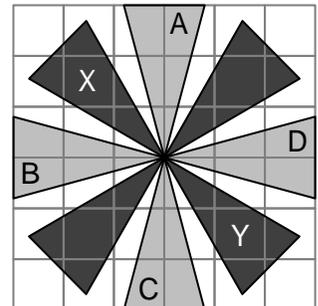
1. Which sets of shapes are **not** rotations?



- A. A and B C. C and A
 B. B and C D. A, B, and C

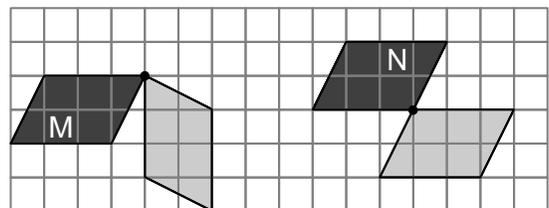
2. a) Describe the rotations of triangle A to triangle B. Rotate 90° CCW about the point where the triangles meet.

b) Can the same rotation apply from triangle A to triangle D? Explain. Yes, it has the same amount of turn, but in the opposite direction, so it is rotated 90° CW about the point where the triangles meet.



c) Describe 2 rotations of triangle X to triangle Y. Rotate 90° CCW about the point where the triangles meet or rotate 270° CW about the point where the triangles meet.

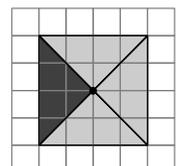
3. a) Rotate parallelogram M 90° CCW.
 b) Rotate parallelogram N 180° CW.
 c) Which rotation, a) or b), looks like a translation? rotation



d) Describe the translation. right down

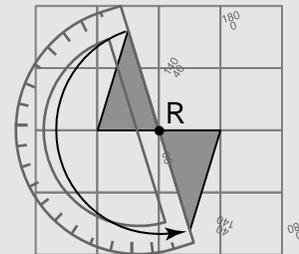
4. a) Rotate the triangle 90° CCW 3 times.

b) What shape is created? _____



Notes

A **rotation** of this triangle is 180° CCW (counterclockwise). The triangle turns around the centre of rotation without changing its size or shape.



Point R is the centre of rotation.