

WARM-UP

1 Mental math. Find a value of each expression.

$20 + 30 + 10 =$
 $80 - 60 + 20 =$
 $50 + 10 - 40 =$

$90 - 50 - 30 =$
 $70 - 10 + 20 =$
 $60 + 30 - 90 =$

2 State which equality below is TRUE (mark with T) and which one is FALSE (mark with F):

| | |
|--------------------------|----------------------|
| $2 + 5 = 6$ ____ | $12 = 10 + 2$ ____ |
| $3 + 5 = 2 + 5$ ____ | $3 + 2 = 2 + 3$ ____ |
| $4 + 4 = 8$ ____ | $32 = 23$ ____ |
| $3 + 4 + 2 = 4 + 5$ ____ | $5 + 3 = 8 + 1$ ____ |

3 Find the difference between two numbers:

- a) 36 and 16 _____
- b) 27 and 27 _____
- c) 67 and 36 _____

Homework Review

1. Two small boxes have the same amount of balls. One big box has as many balls as the other two together. Write an equation to show how many balls are in the big box.



L balls

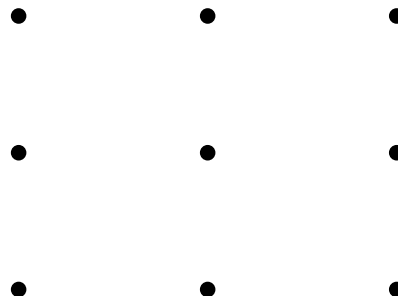


L balls



X balls

2. Without lifting up you pencil connect 9 points with 4 straight line segments.



New Material

4

Look at the definitions below and connect each definition with a correct term.

- is a straight.
- goes in both directions.
- does not end ... so you can't measure its length

Ray

- is straight.
- is part of a line.
- has one endpoint.
- goes in ONE direction.

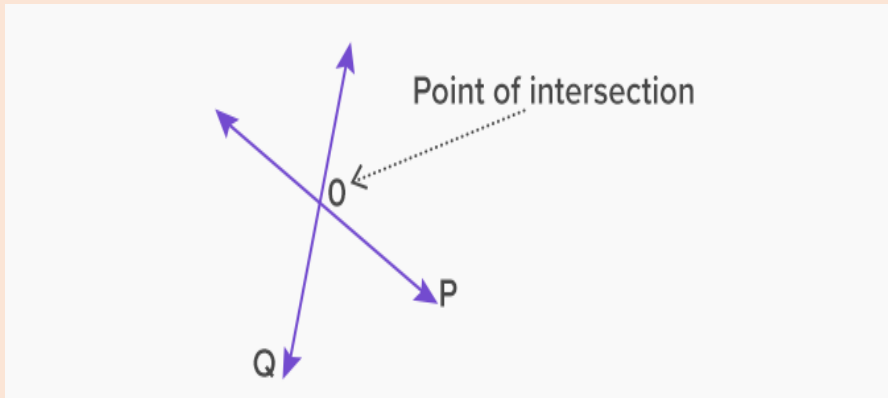
Line Segment

- is straight.
- is a part of a line.
- has 2 endpoints that show the points that end the line.

Line

Intersection of Lines.

Two different lines in the same plane will either intersect or not.
If the lines intersect, they share a common point, which is called the **point of intersection**.



If lines do NOT intersect, they are called **Parallel** lines. Parallel lines never intersect.
In the real world a good example of parallel lines is a railroad.

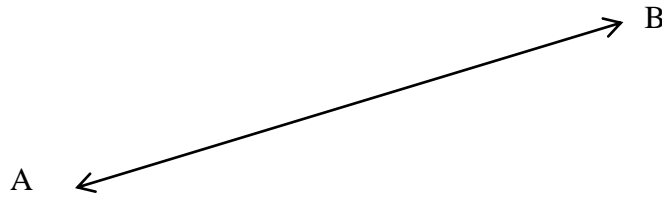
5

Give the examples of intersecting lines in real life.

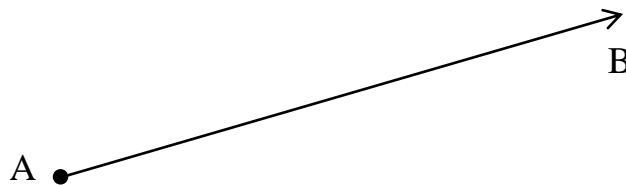
- 1.
- 2.
- 3.

6

a) This line is called \overleftrightarrow{AB} . It can also be called \overleftrightarrow{BA} . Line \overleftrightarrow{BA} is the same as line \overleftrightarrow{AB} . Arrows show that a line should be continued indefinitely.



b) This is a ray \overrightarrow{AB} . A ray is a part of a line, which starts at a point and goes off in a particular direction to infinity. Is ray \overrightarrow{AB} the same as ray \overrightarrow{BA} ?



c) Does a line have length? What about a ray? Can you give an example of a geometric object, which has a length?

7

Using your ruler draw:

a) Two **line segments**, which intersect at point K.

b) Two **line segments**, which do NOT intersect and are not parallel.

c) Two **line segments**, which are parallel.

8

Consider a pair of rays \overrightarrow{AB} and \overrightarrow{CD} . Using your ruler draw:

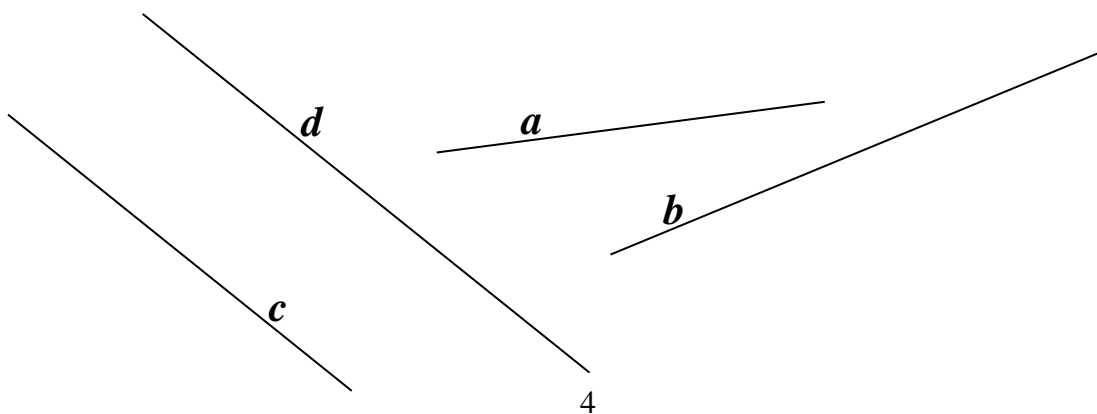
a) Two rays which intersect at point M

b) Two rays which do NOT intersect and are not parallel)

c) Two rays which are parallel

9

a) Using a ruler, extend lines *a* and *b*. Find their intersection points with other lines and label those points by any capital letters you choose. Which lines are parallel to each other?



REVIEW

100 ones = 10 tens = 1 hundred

10

2 hundred and 8 tens = 280

3 hundred, 5 tens and 2 ones = _____

7 hundred, 0 tens and 8 ones = _____

5 hundred, 9 tens and 0 ones = _____

Adding two-digit or three-digit numbers:

Place one number under the other number so that the tens' place digits and ones' place digits are lined up.

Draw a line under the bottom number.

Add the **ones' place digits** ($3 + 5 = 8$).

$$\begin{array}{r} 43 \\ + 55 \\ \hline 8 \end{array}$$

Add the numbers in the **tens' place column** ($4 + 5 = 9$) and place the answer below the line and to the left of the ones' place sum.

$$\begin{array}{r} 43 \\ + 55 \\ \hline 98 \end{array}$$

When you add three-digit numbers, write the numbers one under another - in the column form, lined up ones under ones, tens under tens and hundreds under hundreds. Start the addition from ones, then add tens (don't forget about regrouping - carrying 1 over the next higher place value, if the sum of 2 digits is greater than 9)

Calculate:

$$\begin{array}{|c|c|} \hline 3 & 9 \\ \hline + & 50 \\ \hline & \\ \hline & \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline 3 & 0 \\ \hline + & 23 \\ \hline & \\ \hline & \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline 3 & 6 \\ \hline + & 42 \\ \hline & \\ \hline & \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline 3 & 4 \\ \hline + & 14 \\ \hline & \\ \hline & \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline 3 & 1 \\ \hline + & 68 \\ \hline & \\ \hline & \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline 3 & 2 \\ \hline + & 17 \\ \hline & \\ \hline & \\ \hline \end{array}$$

+

+

12

Calculate:

$44 + 710 = \underline{\quad}$

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |

$117 + 72 = \underline{\quad}$

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |

$111 + 513 = \underline{\quad}$

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| | | | |

$678 + 301 = \underline{\quad}$

| | | | |
|--|--|--|--|
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| | | | |
| | | | |
| | | | |

13

Fill in the missing digits:

| | | |
|-------|---|---|
| | 8 | |
| + | | 5 |
| <hr/> | | |
| | 9 | 7 |

| | | |
|-------|---|---|
| | | 3 |
| + | 3 | |
| <hr/> | | |
| | 4 | 2 |

| | | |
|-------|---|---|
| | 3 | 8 |
| + | | |
| <hr/> | | |
| | 9 | 8 |

| | | |
|-------|---|---|
| | | |
| + | 1 | 4 |
| <hr/> | | |
| | 7 | 0 |

14

Solve the problems:

a) Tom had 8 marbles. Then Jerry gave him some more marbles. Now Tom has 17 marbles. How many marbles did Jerry give him?

Given (what we know): _____

Question (what we should find): _____

Solution: _____

Answer: Jerry gave Walter _____ marbles.

b) There are twelve girls in a class of 25 students. How many boys are in the class?

Given (what we know): _____

Question (what we should find): _____

Solution: _____

Answer: _____ boys in the class.