

Math 2 Classwork 25

Warm Up

Multiplication table. Solve as many as you can in **3 minutes**.



1

Compare:

$10 \times 10 \dots 100 \times 10$

$100 \times 11 \dots 110 \times 10$

$40 \times 11 \dots 4(10 + 1)$

$4 \times 70 \dots 4(60 + 10)$

$6 \times 90 \dots 60 \times 9$

$70 \times 60 \dots (35 + 35) \times 60$

$50 \times 70 \dots 500 \times 70$

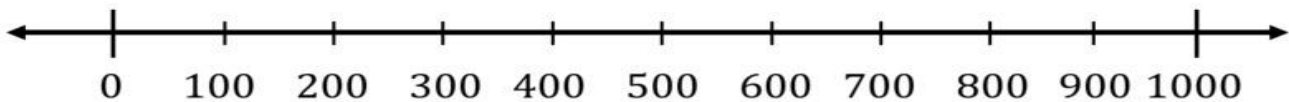
$700 \times 8 \dots 70 \times 800$

$80 \times 100 \dots 40 \times 100 + 40 \times 100$

$8 \times 800 \dots 800 \times 4 + 800 \times 5$

2

a) Plot the following numbers on the number line: 450, 980, 630, 125, 220, 360, 800
Choose different pairs of numbers from those you plotted on the number line to make a comparison correct.



$\underline{\hspace{2cm}} > \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} < \underline{\hspace{2cm}}$

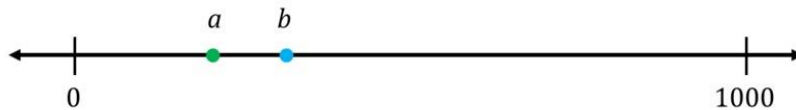
$\underline{\hspace{2cm}} < \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} > \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} < \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} > \underline{\hspace{2cm}}$

b) Is the number **a** greater or less than the number **b**? How do you know?



3

Without calculations, write all expressions in the descending order (from the largest to smallest):

$2 \times 17, \quad 17 \times 4, \quad 17 \times 7, \quad 8 \times 17, \quad 17 \times 5, \quad 3 \times 17, \quad 17 \times 1$

Homework Review

4

How much time has elapsed between the first and the second times?

First time:

Second time:

Elapsed time:

11 am

1 pm

5:20 pm

6:30 pm

4:40 pm

8:10 pm

3:22 pm

6:15 pm

5

Expand the following by removing parentheses:

$6(z + 3) = \underline{\hspace{2cm}}$

$4(6 - y) = \underline{\hspace{2cm}}$

$5(a + 8) = \underline{\hspace{2cm}}$

$9(3 - q) = \underline{\hspace{2cm}}$

$4(3z + 6) = \underline{\hspace{2cm}}$

$5(2 - 2y) = \underline{\hspace{2cm}}$

$7(3a + 3) = \underline{\hspace{2cm}}$

$7(6 - 6q) = \underline{\hspace{2cm}}$

New Material I

Division is splitting into equal parts or groups. It is the result of "fair sharing".

We use the \div symbol, or sometimes the $/$ symbol to mean divide:

$$12 \div 3 = 4 \quad \text{or} \quad 12/3 = 4$$

- **Dividend:** the number being divided – in our case is 12
- **Divisor or factor:** a number that will divide the dividend is 3
 - **Quotient:** the result of the division is 4

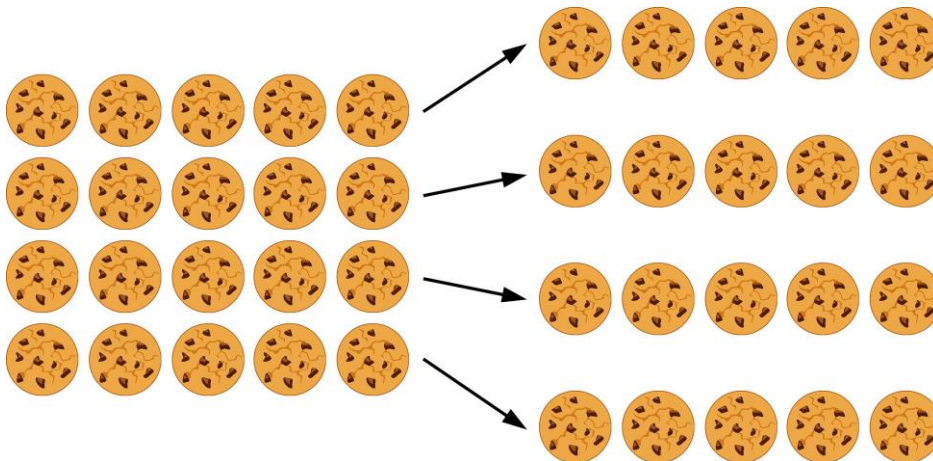
6

Nicole has 20 cookies and there are 4 people. So, we can rewrite this as a mathematical equation.

Then perform the division.

$$20 \text{ cookies} \div 4 \text{ friends} = 5 \text{ cookies for each friend.}$$

This problem is also illustrated with the following diagram.



These phrases describe division as a mathematical expression.

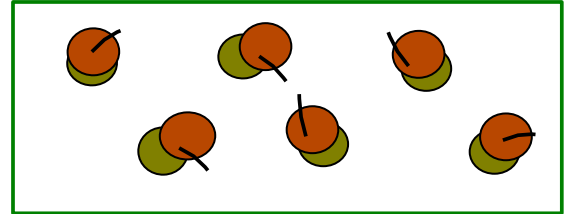
1. 35 divided by 7 equals 5 → $35 \div 7 = 5$
2. The quotient of 6 and 3 is 2 → $6 \div 3 = 2$

7

Division vs. multiplication.

a) Write down a product based on the drawing:

___ × ___ = ___

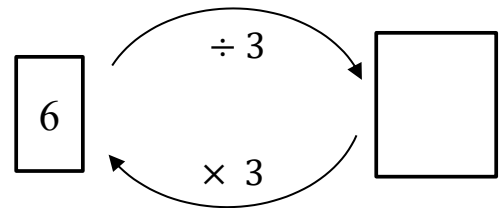


b) If 6 acorns are divided into 3 equal groups, how many acorns are in each group?

$6 \div 3 = \underline{\quad}$

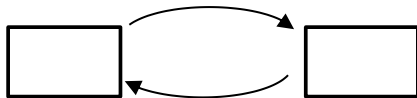
c) Write down the equalities based on the scheme:

$6 \div 3 = \underline{\quad}$; $\underline{\quad} \times \underline{\quad} = \underline{\quad}$



8

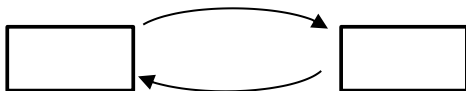
The balls were split into groups of 3. Complete the scheme and write the equalities.



___ × ___ = ___

___ ÷ ___ = ___

___ ÷ ___ = ___



9

Write correct expressions:

K increased by 5-times _____

B decreased by 7 _____

K increased by 5 _____

B increased 7-times _____

K divided by 5 _____

B increased by 7 _____

K decreased by 5 _____

B divided by 7 _____

10 For each question draw a diagram, write an expression with division, and find its value:

Example: 10 cups of flour make 5 batches of cookies. How many cups of flour in one batch?
Here are a diagram and an expression with division that represents this situation:

$$10 \div 5 = 2$$



a) 6 cups of flour make 3 batches of cupcakes. How many cups of flour in one batch?

b) 14 cups of flour make 7 batches of bread. How many cups of flour in one batch?

11 Dan and Karen are trying to figure out which number could be placed in the box to make this equation true.

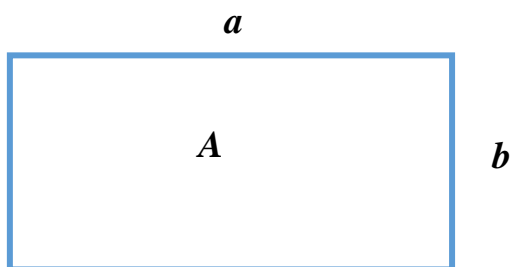
$$2 = \square \div 6$$

Dan insists that 12 is the only number that makes the equation true.

Karen insists that 3 is the only number that makes the equation true.

Who is right? Why? Draw a picture to support your idea.

12 How do we find a side of the rectangle if we know the Area and one side? Write a correct equality for each question:



$$A = a \times b$$






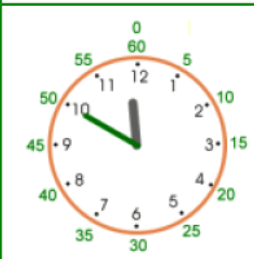

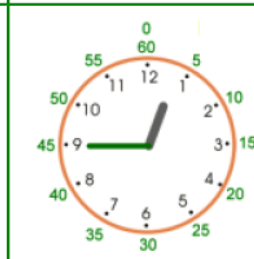
a) Find the side b , if $a = 5$ and $A = 20$ _____

b) Find the side a , if $b = 10$ and $A = 20$ _____

REVIEW

Tell the time on each clock:

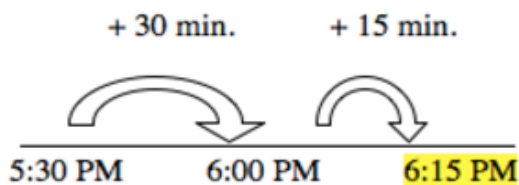
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 <p>a. _____ : _____</p>	 <p>b. _____ : _____</p>	 <p>c. _____ : _____</p>	 <p>d. _____ : _____</p>
 <p>e. _____ : _____</p>	 <p>f. _____ : _____</p>	 <p>g. _____ : _____</p>	 <p>h. _____ : _____</p>

14

Solve problems. Use a number line to illustrate it.

- a) It usually takes Kristina 45 minutes to do her homework. If she starts her homework at 5:30 PM, what time will she finish?



- b) One day Kristina started her homework at 6:45 PM and finished her homework at 7:20 PM. How long did Kristina spend on her homework?
- c) Another day, Kristina finished her homework at 5:05 PM after spending 40 minutes on her homework. What time did Kristina start her homework?

Did you know ...

Ever since man first noticed the regular movement of the Sun and the stars, we have wondered about the passage of time. Prehistoric people first recorded the phases of the Moon some 30,000 years ago and recording time has been a way by which humanity has observed the heavens and represented the progress of civilization.

First Clocks:

According to historical records and archaeological finds, the Ancient Egyptians developed the first known clock. Called **Shadow Clock**, they were able to divide the day into 12-hour periods and used some of their enormous obelisks to track the movement of the Sun.

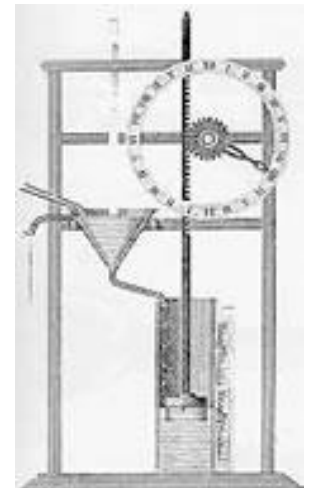
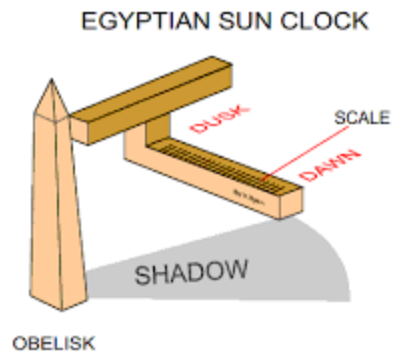
Sundial (or Shadow clock), the earliest type of timekeeping device, indicates the time of the day by the position of the shadow of some object exposed to the Sun's rays. As the day progresses, the Sun moves across the sky, causing the object's shadow to move and indicating the passage of time.



A candle marked for use as a timer

Candle Clocks

Marked candles were used for telling the time in China from the sixth century CE.



Water Clocks

The water clock, or clepsydra, appears to have been invented about 1,500 BCE and was a device, which relied on the steady flow of water from or into a container.