

## Math 2 Classwork 23

### Warm Up

1

**Multiplication table by 6 and 7.** Solve as many as you can in **3 minutes**.

$6 \times 0 =$

$6 \times 5 =$

$4 \times 7 =$

$60 \times 20 =$

$4 \times 70 =$

$60 \times 6 =$

$20 \times 7 =$

$6 \times 20 =$

$3 \times 70 =$

$6 \times 10 =$

$7 \times 10 =$

$10 \times 60 =$

$50 \times 7 =$

$70 \times 8 =$

$70 \times 6 =$

$70 \times 100 =$

$7 \times 7 =$

$6 \times 7 =$

$60 \times 60 =$

$7 \times 9 =$

$9 \times 6 =$



2

Compare, if possible:

$2 \times c + c \square c \times 3$

$3 \times c + 5 \square c \times 4$

$c \times 6 \square c \times 3 + c \times 2$

$x \times 5 - x \times 2 \square x \times 3$

$p + p \times 2 \square p \times 4$

$q \times 4 \square q + q + q + 7$

3

Solve and check your answers:

$351 + x = 610$

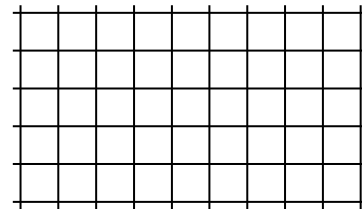
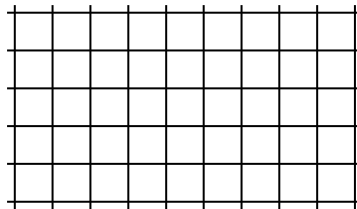
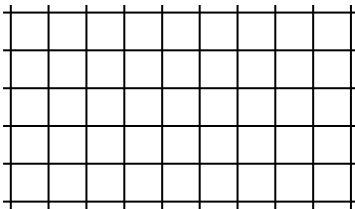
$y - 119 = 333$

$z + 124 = 172$

$x = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$

$z = \underline{\hspace{2cm}}$



### Homework Review

4

Make a list of the first ten multiples of 3 \_\_\_\_\_

a) Which of the numbers on your list are multiples of 6? - circle them!

b) What pattern do you see where the multiples of 6 appear in the list? – write your answer:

\_\_\_\_\_

c) Which numbers on the list are multiples of 7? Can you predict when multiples of 7 will appear in the list of multiples of 3? Explain your reasoning.

\_\_\_\_\_

## New Material I

### The pattern in the multiplication by 9's.

Read the first ten multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90 aloud.

On the **one's place**, we see that 9 has 9 ones, 18 has 8 ones, and going through the list, we get that the values on one's place are 9, 8, 7, 6, 5, 4, 3, 2, 1, 0.

**The ten's place** starts at 0 and goes up by one while the one's place is 9 again and goes down by 1: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

The first digit of the product is one less than the number you are multiplying by, and the second is whatever you need to make the two digits add up to 9.

*For example:*  $9 \times 4 = 36$ . It fits the pattern because 3 is one less than 4, and you need 6 to be added to 3 to make a sum of both numbers equal 9.

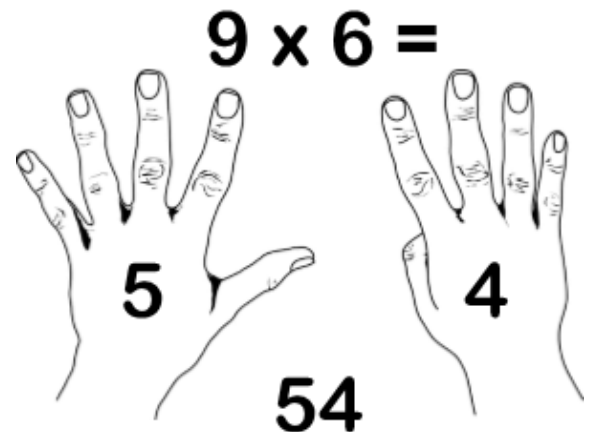
$$9 \times 6 = 54$$

$$9 \times 9 = 81$$

$$9 \times 7 = 63$$

There is a finger trick as well, which is very useful.

To multiply  $9 \times 6$ , you should put the sixth finger down and look at your hands. You will have 5 fingers up on one side of the down finger and 4 on the other.



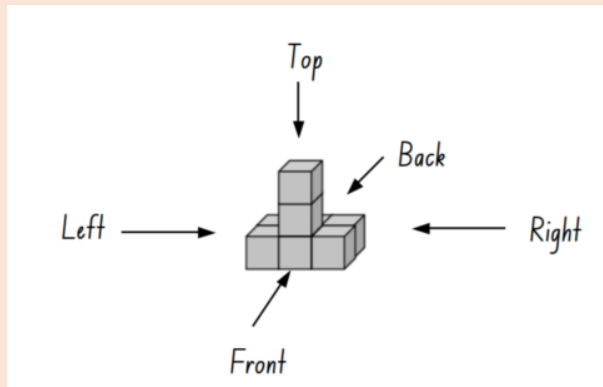
**5** a) Are the multiples of 9 even or odd, or they alternate? Check the first 10 multiples of 9. \_\_\_\_\_

b) Are the multiples of 8 even or odd, or they alternate? Check the first 10 multiples of 8. Could you explain your answer? \_\_\_\_\_

**6** Check the first 9 multiples of 11. Can you describe the pattern? Hint: what are the digits on one's and ten's places?

\_\_\_\_\_

2D projections of 3D models



7

a) Take a look at the solid structure build by putting together 8 identical cubes (on the top):

Front View	Top View	Right Side View	Left Side View	Back View

b) Take a look at the front, right side, and top projections. Match them with 3D objects. Circle the matching 3D object.

Front View	Top View	Right Side View

Top View	Right Side View	Left Side View

c) Look at these 3D objects. Draw the 2D projections.

Front View	Top View	Right Side View

Top View	Right Side View	Left Side View



11 Calculate using the associative property of multiplication.

$$16 \times 30 = (8 \times 2) \times (6 \times 5) = (2 \times 5) \times (8 \times 6) = \underline{\hspace{4cm}}$$

$$(35 \times 60) = (7 \times 5) \times (6 \times 10) = \underline{\hspace{4cm}}$$

## REVIEW II

12 Do you need a more detailed review of basic objects of geometry?

Using a ruler draw:

YES

NO

a)  $\overline{AB}$

b)  $\overrightarrow{AB}$

c)  $\overleftrightarrow{AB}$

d)  $l$

13 Using a 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

14 Using a ruler or set-squares, draw:

- a)  $\angle AOB$  – acute
- b)  $\angle CED$  – obtuse
- c)  $\angle FOP$  – right

15 Using a ruler or set-squares, draw:

- a)  $\angle ABC$  – straight angle
- b) two adjacent angles, name them correctly
- c) two supplementary angles, name them correctly
- d) two complementary angles, name them correctly