11.5 DIVIDING INTEGERS

Today's Learning Goals:

- I can divide integers
- I can solve real-life problems

The many forms to divide to get a quotient

Quotient- _____

Multiplication problems can be written:

$8 \div 2$ $\quad \frac{8}{2} \quad$ $2\overline{)8}$

$8 / 2$

RULES FOR DIVIDING INTEGERS

Divide numbers like regular division… however…

POSITIVE ÷ POSITIVE = POSITIVE
POSITIVE ÷ NEGATIVE = NEGATIVE
NEGATIVE ÷ POSITIVE = NEGATIVE
NEGATIVE ÷ NEGATIVE = POSITIVE

1) $8 \div -4$

2) $-20 \div 4$

3) $-21 \div -7$

4) $-36 \div 3$

5) $-30 \div -5$

6) $48 \div -4$

7) $-15 \div -1$

8) $\dfrac{-72}{9}$

9) $\dfrac{-56}{-8}$

Review – Order of Operations

Parenthesis

Exponents / Roots

Multiplication

Division

Addition

Subtraction

Practice

Simplify the following

10) $9 + 6 \times 4 - 7$

11) $24 \div (3 \bullet 5 - 7)$

P E M D A S

Left →Right Left →Right

12) $(4-2)^3 - 5$

13) $8 + 2 \times 9^2$

P E M D A S

Left →Right Left →Right

14) $6+2^3 \div 8$

15) $100-5^2 \times 4$

Important!!

$(-4)^2$ *vs* -4^2

Evaluation each expression

16) -2^4

17) $(-2)^4$

Evaluating with negative numbers

Evaluate x^3 if $x = -2$

Evaluate the expression if $x = 8$ and $y = -4$

18) $10 - x^2 \div y =$

Practice

Evaluate the expression if $a = -18$ and $b = -6$

19) $a \div b$

20) $\dfrac{a+6}{3}$

21) $\dfrac{b^2}{a} + 4$

Mean

- (Average) – The sum of numbers divided by the amount of numbers

$$\text{Mean} = \frac{\text{Sum of numbers}}{\text{Amount of numbers}}$$

1) Find the average of the following numbers:

3, -3, -5, 2, -7