8.5 Notes: Applying Integer Operations

BEDMAS

a single number inside a bracket is not considered a "bracket operation"

Calculate the following:

$(-10) ÷ (-2) - (+4) \times (+6) =$

$= \quad +5 \quad - (+24)$

$\quad +5 \quad + (-24)$

$= \quad -19$

$(-16) ÷ [(+5) - (+6) + (-7)] =$

$= -16 ÷ [5 + -6 + -7]$

$= \quad -16 ÷ [-8]$

$= \quad +2$

✱ do one step/operation per line and then rewrite the question

$(-3) + (-4) \times (-2) - (+6) =$

$(-3) + \quad +8 \quad - (+6) =$

$\underline{\underline{-1}}$

$(-2) - (+4) \times (-5) ÷ (+2) =$

$-2 - (-10)$

$-2 + (+10)$

$\underline{\underline{+8}}$

Can you predict whether: (-) x (-) x (-) – (-) x (-) x (-) is positive or negative?

$\ominus \quad - \quad \ominus$

$\ominus + \oplus$

can't say for sure in this case it depends

eg $(-1) - (-3) = +2$

$(-3) - (-1) = -2$

Johnny has $4, he has to repay Gary $3, but he collects $7 from Karen. He goes to the roulette table and doubles his money. Write an equation to model this situation.

$(4 - 3 + 7) \times 2 = 16$

adding brackets can make some operations more important

When working with integers, it is important to remember what the integer means!

means going down

Joe is on a staircase, and climbs -3 steps every second. After 4 seconds, where is he compared to his starting position?

$$-3 \times 4 = -12$$

he is 12 steps lower than where he started.

A submarine climbs 50m in 40 seconds. How fast is it ascending?

$$\text{meters}/\text{second} = {}^+50m/40s = {}^+1.25 \, m/s$$

For the past 6 weeks, Frederick has deposited $30 every week. However, for the past 4 weeks, he has had to withdraw $50. Using only addition statements, write an equation to show how much his bank balance has changed by.

$$+30 + {}^+30 + 30 + 30 + 30 + 30 + (-50) + (-50) + (-50) + (-50) = -20$$

$$180 \qquad + \qquad (-200)$$

Weather this week is cold. The daily temperatures were (+3°), (-1°), (+2°), (-4°), and (+5°). Determine the *mean* temperature.

average
temperature

$$\frac{3 + (-1) + (+2) + (-4) + (+5)}{5} = \frac{+5}{5} = 1°C$$

 +/- ratings are often used in sports. Kevin Bieksa had the following ratings in his last 4 games.:

What is his total +/- for the trip? $-1 + (+4) + (+3) + (-2) = 4$

Game	+/- Rating
vs Calgary	-1
vs Ottawa	+4
vs Toronto	+3
vs Montreal	-2

What was his mean +/- per game?

$$\frac{total}{\#games} = \frac{4}{4} = +1$$

What would he need in his next game to get an average +/- of +2?

he needs +10 after 5 games.
He has +4 after 4 games, he needs $\underline{\underline{+6}}$

$$\frac{total}{\#games} = average$$

$$\frac{+10}{5} = +2$$

Sami Salo currently has a +/- rating of +3. If he gets a -2 rating for each of the remaining games, how many games will he need to play in order to get a total rating of -9?

what is difference between <u>ending</u> amount + <u>starting</u>

$= -9 - (+3)$

$= -9 + (-3)$

$= -12$

$$\frac{-12}{-2} = +6 \text{ games}$$

Summary:
    Mean is   the average.

mean is abbreviated as $\bar{x}$

$$\bar{x} = \frac{total}{\#\ of\ scores}$$

p315   #4-9 , 12, 14, 15, 17, 19-22

80

Chapter Test on Mon April 20