

Module D

Homework Expectations/Considerations

§10.1 Real Numbers and Order

The more negative a number, the smaller it is and the farther it lies to the left of 0 on the number line.



Note: $-50 < -10$

§10.2 and §10.3 Adding and Subtracting Real Numbers

Use paper which has no horizontal lines that may obscure a negative sign.

Show work completely. Use equal signs to connect each new expression at the beginning of each line. Show scratch computations on the side rather than the middle of the formal work. Do not leave such computations on a scratch sheet of paper.

EXAMPLE: Find $-11.4 - (-13.7)$

(Note: the scratch work is on the side)

$$\begin{aligned} & -11.4 - (-13.7) \\ &= -11.4 + 13.7 \\ &= \boxed{2.3} \end{aligned}$$

$$\begin{array}{r} 13.7 \\ -11.4 \\ \hline 2.3 \end{array}$$

EXAMPLE: Evaluate $|-2| + |7 + (-3) - 5 - 3|$

$$\begin{aligned} & |-2| + |7 + (-3) - 5 - 3| \\ &= 2 + |4 - 5 - 3| \\ &= 2 + |-1 - 3| \\ &= 2 + |-4| \\ &= 2 + 4 \\ &= \boxed{6} \end{aligned}$$

§10.4 Multiplying Real Numbers

Be very careful and meticulous with parentheses and exponents. Use PEMDAS order of operations to evaluate expressions.

EXAMPLE: Evaluate $-4^2 - 5$

$$\begin{aligned} & -4^2 - 5 \\ & = -16 - 5 \end{aligned}$$

$$= \boxed{-21}$$

EXAMPLE: Evaluate $(-4)^2 - 5$

$$\begin{aligned} & (-4)^2 - 5 \\ & = 16 - 5 \end{aligned}$$

$$= \boxed{11} \quad (\text{Do you see a difference between this example and the previous example?})$$

Hint: $-4^2 = -1 \cdot 4^2 = (-1)(4)(4) = -16$ but $(-4)^2 = (-4)(-4) = 16$

§10.5 Dividing Real Numbers

Simplify the numerator and denominator separately and keep the fraction bar with each new expression.

EXAMPLE: Evaluate $\frac{4 - (-2)^3 + 1}{5 - 2^3}$

$$\frac{4 - (-2)^3 + 1}{5 - 2^3}$$

$$= \frac{4 - (-8) + 1}{5 - 8}$$

$$= \frac{4 + 8 + 1}{-3}$$

$$= \frac{12 + 1}{-3}$$

$$= \boxed{\frac{13}{-3}}$$