

1. Using order of operations evaluate the following numerical expressions. Do not use a calculator for this section.

(a)  $22 - 2 \cdot 6$

(b)  $6 - \frac{1}{4} \cdot 16 + 21 \div 3$

(c)  $(8 - 5)(5 - 3)^2$

2. Evaluate the following expressions for the values of  $x$  given. Show the steps in your calculation.

(a)  $\frac{4(x-2)}{(x-1)}$  when  $x = 0$

(b)  $\frac{-3x^2 + 4}{4} - 1$  when  $x = -2$

(c)  $\frac{-2x + 4(x-1)}{x^2 - 1}$  when  $x = 2$

3. Robert just got his first job and is saving 45 dollars a week. He also has 155 dollars saved from his birthday that just passed. To see how much money he will have in his bank account Robert came up with the following expression:  $45w + 155$ , where  $w$  is the number of weeks that he has been saving.

(a) Exactly how much will he have saved in 6 weeks?

(b) After his first **month** he had more than he expected to have due to interest the bank provided. This let Rob come up with a better expression,  $\frac{w^2}{25} + 45w + 155$ , where  $w$  is the number of **weeks**. How much will he have in 1 **year**?

4. Input the following two expressions into your calculator and see what you get.

(a)  $(-5)^2 + 2 * (3 + 1)$

(b)  $-5^2 + 2 * 3 + 1$

(c) Explain what changed from the expression in (a) to (b) and why that changed your answer.

---

R1. What is half of  $2^6$ ?

(1)  $1^3$

(2)  $1^6$

(3)  $2^3$

(4)  $2^5$

R2. Order the numbers from least to greatest:  $\pi$ ,  $\sqrt{10}$ ,  $3.\overline{15}$

R3. True or false:  $2 > -50$

R4. Simplify:  $\frac{-3(10-8)}{8-5 \cdot 4}$

R5. From the product of  $-10$  and  $-2$ , subtract the quotient of  $-10$  and  $-2$ .

---

1. (a) 10

(b) 9

(c) 12

2. (a) 8

(b) -3

(c) 1

3. (a) 425

(b) 2603.16

4. (a) 33

(b) -18

(c) Explain

R1. Choice 4

R2.  $\pi, 3\overline{15}, \sqrt{10}$

R3. True

R4.  $\frac{1}{2}$

R5. 15