

Name: _____
Date: _____
Class: _____

Algebra
Unit 1
HW 1-4

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

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

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

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) $\frac{-2x}{x^2-1} + 4(x-1)$ 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.

5. Andrew received a 95 on his last test and the only question he got wrong was the following.

- (a) Read through the question and Andrew's work. Find and circle his mistake. (b) Explain what he did wrong and what he should have done.

Evaluate: $x^2 - 2(x - 3)$ when $x = 3$.

Andrews work:

$$= x^2 - 2(x - 3)$$

$$= 3^2 - 2(3 - 3)$$

$$= 3^2 - 2(0)$$

$$= 9 - 2(0)$$

$$= 7(0)$$

$$= 0$$

(c) Using your knowledge and abilities show Andrew how to evaluate the expression correctly. State the correct value.