

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

$6 - 4 + 7$

(9)

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

$(3)(2)^2$

$3(4) = (12)$

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 $x=0$

$\frac{4(0-2)}{(0-1)}$

$\frac{4(-2)}{-1}$

$\frac{-8}{-1} = (8)$

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

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

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

$\frac{-12+4}{4} - 1$

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

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

$\frac{-4+4(1)}{4-1}$

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

(1)

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?

$45(6)+155 = (425)$

(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?

52 weeks \rightarrow 1 year

$\frac{52^2}{25} + 45(52) + 155 = 108.16 + 2340 + 155$

$= (2603.16)$

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

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

33

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

-18

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

* in a you squared -5, in b you squared 5
* in a 3+1 was in () in b it was not

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.

* Wrong order of operations, () should be first followed by mult. He did subtraction next

$9 - 2(0)$

$9 - 0$

9