

Algebra (Part 1) Study Guide

How do you feel you're doing with this learning target?

3 - MS

2 - PMS

1 - DNM

Competency 2 - Learning Target #1: I can evaluate an algebraic expression.			
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DIRECTIONS: Evaluate each expression if $m = 2$, $n = 6$, and $p = -4$. **SHOW ALL YOUR WORK!**

1.) $3m + 4p =$
 $3(2) + 4(-4)$
 $6 + (-16)$
 -10

2.) $n^2 + 5 =$
 $6^2 + 5$
 $36 + 5$
 41

3.) $\frac{mn}{4} =$
 $\frac{2(6)}{4} = \frac{12}{4} = 3$

4.) $13p + 50 =$
 $13(-4) + 50$
 $-52 + 50$
 -2

5.) $\frac{n}{2} \cdot 4m =$
 $\frac{6}{2} \cdot 4(2)$
 $3 \cdot 4 \cdot 2$
 $12 \cdot 2 = 24$

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Competency 2 - Learning Target #2: I can write an algebraic expression.			
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DIRECTIONS: Write an expression for each situation. **SHOW ALL YOUR WORK!**

6.) 9 less than 22
 $22 - 9$

7.) n increased by 5
 $n + 5$

8.) the product of m and 9
 $9m$

9.) the product of a number and 3, then has 14 taken away
 $3n - 14$

- 10.) Jenny earns \$30 a day working part time at a supermarket. Write an algebraic expression to represent the amount of money she will earn in d days.

$$30d$$

How much money would Jenny make in 105 days?

$$30(105) = \$3,150 \text{ in } 105 \text{ days}$$

- 11.) Will has a savings account that contains \$435. He decides to deposit \$30 each month from his pay to his savings account. Write an expression to find how much money Will will have in her savings account after m months.

$$30m + 435$$

How much money will Will have in his savings account after 9 months?

$$30(9) + 435 = \$705 \text{ in savings account}$$

- 12.) Mike has \$5,700 in his savings account and d dollars in his checking account. Write an expression that describes the total amount that he has in both accounts.

$$5,700 + d$$

How much money does Mike have all together if he has \$520 in his checking account?

$$5700 + 520 = \$6,220 \text{ all together}$$

- 13.) The cost for three people to fly from Sydney, Nova Scotia to Calgary, Alberta is \$1535.75. The airline also applies an additional charge of \$25.00 for each piece of checked luggage. Write an expression to model the problem.

$$25c + 1,535.75$$

If the group has 5 pieces of checked luggage, how much does it cost for them to fly to Calgary?

$$25(5) + 1,535.75$$

$$125 + 1,535.75 =$$

$$\$1,660.75 \text{ is the total cost}$$

$$\begin{array}{r} 1,535.75 \\ + 125.00 \\ \hline 1,660.75 \end{array}$$

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Competency 2 - Learning Target #3: I can describe and extend sequences..

DIRECTIONS: Describe the relationship between the terms in each arithmetic sequence. Then write the next three terms in the sequence.

$$\begin{array}{r} 146 \\ -28 \\ \hline 118 \end{array}$$

14.) ...14, 28, 46...

DESCRIBE RELATIONSHIP IN WORDS:

increasing each time by 2.

NEXT THREE TERMS IN THE SEQUENCE:

15.) ...0.4, 0.9, 1.4, ...

DESCRIBE RELATIONSHIP IN WORDS:

increasing by 0.5 each term

NEXT THREE TERMS IN THE SEQUENCE:

...1.9, 2.4, 2.9...

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Competency 2 - Learning Target #4: I can solve algebraic expressions that involve Distributive Property.

DIRECTIONS: Use the Distributive Property to evaluate or simplify each expression. SHOW ALL YOUR WORK!

16.) $4(x + 6) =$

$$4x + 24$$

17.) $2(2x - 4) =$

$$4x - 8$$

18.) $-4(d + 20)$

$$-4d - 80$$

19.) $3(m - 3)$

$$3m - 9$$

20.) $-3(10x + 3)$

$$-30x - 9$$

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Competency 2 - Learning Target #5: I can simplify algebraic expressions.

DIRECTIONS: Write the algebraic expression in simplest form.

21.) $4z - z$

$3z$

22.) $6 - 3n + 3n$

6

23.) $2g - 3 + 11 - 8g$

~~$2g + 8$~~
 $-6g + 8$

24.) $6d + 3z - 8 - 3z + 4d$

$10d - 8$

25.) $5x + 3m - 2 - 2x + 15$

$3x + 3m + 13$

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Competency 2 - Learning Target #4: I can identify parts of an expression.

DIRECTIONS: Identify the terms, like terms, coefficients, variables, and constants.

26.) $4y - 3 - 21y + 4 + 2x$

Terms: $4y, -3, -21y, +4, +2x$

Like Terms: $4y$ & $-21y$ and -3 and 4

Coefficients: $4, -21, 2$

Variables: y and x

Constants: -3 and $+4$