

Mr. Nolfi

Victim: _____

KU	APP	TIPS	COM
/25	/28	/16	/10

Modified True/False (3 KU)

Indicate whether each statement is **true** or **false**. If false, **change** the underlined part to make the statement true.

1. T/F _____ The algebraic expression $x - 7$ represents seven more than a number. Change: _____
2. T/F _____ $x = 2$ is the solution to the equation $4x - 8 = 10 - 2x$. Change: _____
3. T/F _____ “Four more than triple a number is 12” can be modelled as $4n + 3 = 12$. Change: _____

Multiple Choice (6 KU)

For questions 4 to 9, select the best answer. Write the letter of your choice in the provided blank space.

4. _____ Which is the correct solution for $x + 7 = -4$?
 (a) $x = 3$ (b) $x = -3$ (c) $x = -11$ (d) $x = 0$
5. _____ $y = -2$ is the correct solution for which equation?
 (a) $3y + 1 = 5$ (b) $2y - 5 = 1$ (c) $4y + 8 = -4$ (d) $y - 3 = -5$
6. _____ The perimeter of a rectangle is 45 m. If the length is four times the width, what is the length?
 (a) 36 m (b) 4.5 m (c) 18 m (d) 9 m
7. _____ The distance, d , in kilometres, a spaceship travels in t hours is given by the formula $d = 50000t$. How long will it take the spaceship to travel 150000 km?
 (a) 30 h (b) 300 h (c) 0.3 h (d) 3 h
8. _____ By which number would you multiply both sides of the equation $\frac{x-1}{4} + \frac{2x+2}{6} = \frac{x+1}{12}$ to eliminate all the fractions?
 (a) 4 (b) 6 (c) 12 (d) 2
9. _____ Matthew and Jonathan compete on the same pizza-eating team. Matthew has eaten 10 more slices than Jonathan and together, they have eaten 50 slices. How many slices has Jonathan eaten?
 (a) 5 (b) 60 (c) 20 (d) 500

10. Solve each of the following equations. Wherever required, *show the operation that is performed to each side*.

(a) $-6a - 5 = -2$ (3 KU)

(b) $-4 - 5s - 3 - 2s = -s + 18$ (4 KU)

(c) $-6(y-3)+11=-(12-2y)$ **(5 KU)**

(d) $\frac{4(x-1)}{5} = -7$ (4 KU)

11. Solve the following equation showing all steps. Then check your solution to verify that it is correct. **(10 APP)**

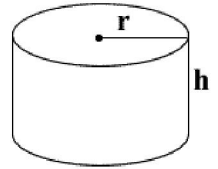
$$\frac{3q}{2} - \frac{q+2}{4} = 12 - \frac{2q+3}{3}$$

Left-hand Side	Right-hand Side
$\frac{3q}{2} - \frac{q+2}{4}$	$12 - \frac{2q+3}{3}$

12. The surface area of a cylinder with radius r and height h is found using the formula $A = 2\pi r^2 + 2\pi rh$.

(a) *Solve* for h in terms of r . (3 APP)

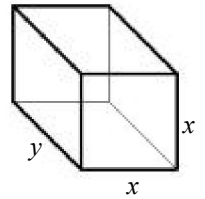
(b) A cylinder has a surface area of 200 m^2 and a radius of 5 m. Use the formula that you developed in (a) to calculate the height of the cylinder. (2 APP)



13. Shown at the right is a shape known as a *square prism*. Its volume can be found using the formula $V = x^2h$.

(a) Rearrange the formula to isolate x . (That is, solve for x in terms of h and V .) (3 APP)

(b) Given that $h = 5$ and $V = 200$, use the equation that you obtained in (a) to solve for x . (2 APP)



14. Brian is a doghouse “salesperson.” He is paid \$12.75 per hour worked *plus* \$50.00 per doghouse sold.

(a) Complete the following table by writing an *algebraic expression* for the amount earned in each case. (3 APP)

Quantity	Variable Representing Quantity	Amount Earned...
Number of Hours Worked	t	... for working t hours
Number of Doghouses Sold	n	... for selling n doghouses
Total Earnings (\$)	E	... in total



(b) How much would Brian earn for working for 40 hours and selling 15 doghouses? (2 APP)

(c) How many doghouses must Brian sell to earn \$1368.75 for 25 hours of work? (3 APP)

15. Naquan is saving nickels and dimes in a jar. The jar contains 10 more nickels than dimes and altogether, the value of the coins is \$16.25. How many nickels and dimes are in the jar? **(8 TIPS)**



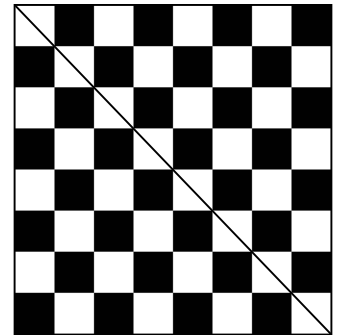
Nickel = $5^c = \$0.05$



Dime = $10^c = \$0.10$

16. The chessboard shown at the right has a diagonal length of 50 cm.

- (a) Find the *area* of each small square on the chessboard. (**Hint:** The Pythagorean Theorem) **(5 TIPS)**



- (b) Suppose that the squares on the chessboard were arranged in a single row. This would form a very long and “skinny” rectangle. Find the perimeter of the rectangle. **(3 TIPS)**