Date: _____

Unit 1A Study Guide

Conversions

- There are 5280 feet in one mile
- There are 0.034 ounces in one milliliter
- There are 0.454 kg in one pound
- There are 1.6 kilometers in one mile
- There are 73 gallons in 2 barrels
- There are 1.05 quarts in one liter
- There are 4 quarts in one gallon
- There are 16 ounces in a pound.

nvert 90 dkm to cm.

90,000 cm

onvert 1560 decimeters to meters.

156 m

Convert 10 kilometers to decimeters.

100,000 dkm

. The cross country team is made up of 12 runners. If every runner must run a 5 kilometer ace, how many miles do they run altogether?

60,000 mi

5. How long does a car traveling at 70 mph take to travel 230 miles, in hours?

3.28 hours

6. April is moving apartments. Her family needs to rent an U-Haul truck to transport their furniture. The rental company charges $19.99 for the truck. Then, they charge $0.20 per mile. Write an equation that represents how much it will cost to use the truck where x = the miles driven. How much will it cost if the family drives it 40 miles?

$19.99 + .2(x) = 99.99

7. You need a plumber to come to your house. Pete charges $50 to come your house and $75 per hour he is there. Paul charges $75 to come to your house and $50 for each hour he is there. Write an equation to represent the charges for both plumbers. Who is cheaper for 3 hours worth of work?

50+75x

Solve the formula for the indicated variable:

8. For r: $V = \pi r h$

$\frac{V}{\pi h} = r$

9. For y: $7x + 14y = -21$

$14y = -7x - 21$

$y = -\frac{1}{2}x - \frac{3}{2}$

10. For h: $V = \frac{A+h}{3}$

$3V - A = h$

Translate each verbal expression to an algebraic expression.

11. Eight more than 3 times a number

$3x + 8$

12. The difference of 10 and a number

$10 - x$

13. The quotient of 12 and a number

$12 \div n$

14. 15 less than twice a number

$2x - 15$

15. Three-fourths the square of a number

$\frac{3}{4}x^2$

16. The product of 5 and the cube of a number increased by the difference of 6 and x

$5x^3 + (6 - x)$

17. Half the sum of x and y decreased by one-third of y

$\frac{1}{2}(x + y) - \frac{1}{3}y$

18. The sum of a number and six, divided by eight

$\frac{n+6}{8}$

Translate each algebraic expression to a verbal expression. varied answers

19. $25 - x$

20. $x^4 - 12$

21. $3 + \frac{1}{2}x$

22. $8^2 - x$

23. $2x + 6$

24. $3(x - 5)$