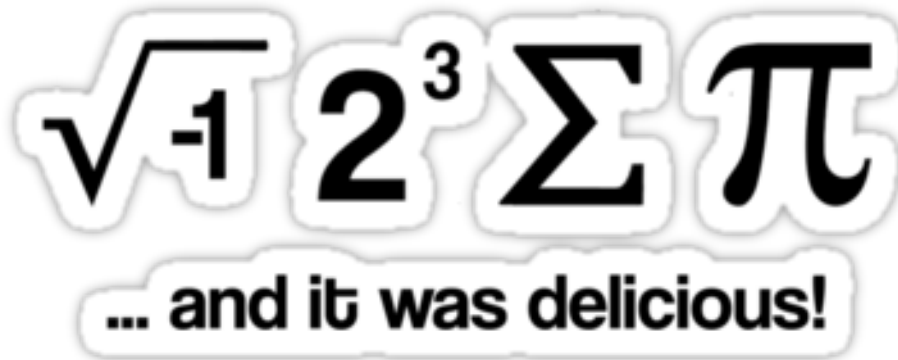


Name: _____

Chapter 2 Test

Make sure you read and follow the directions for each section. **Be sure to show all of your work as you will be given partial credit for doing correct steps even if you end up at the wrong answer.** You will have until the end of class time to finish this test. Upon completion, please bring it up to my desk to hand in. The only things you are allowed to use on this test are pencil/pen, calculator, and scratch paper. You may not talk with anyone or use notes. You may come and ask me questions for clarification.

Good luck with your test and remember to keep a positive mental attitude!



Solve the equation for the variable.

1.) $\frac{3}{2}y = 24$

2.) $-8y = -64$

Solve the equations for the variable. Justify all of your steps along the way.

3.) $x - 14 = 10$

STEPS:

4.) $\frac{3}{4}x = 30$

STEPS:

Solve the follow equations for the variable.

5.) $-7x + 21 = 42$

6.) $\frac{1}{3}x - 16 = 4$

Solve the following equations for the variable. Justify all of your steps along the way.

7.) $8 - 6y = 20$

STEPS:

8.) $10x + 17 = -13$

STEPS:

Solve the following word problem. You must include the following: 1.) the equation for the problem, 2.) solving the problem with justification steps at each point, and 3.) your answer with a label.

9.) The bowling alley charges \$10 to rent a pair of shoes. Each game you bowl costs \$6. You end up spending \$40 at the bowling alley. How many games did you bowl?

STEPS:

Solve the following equations for the variable.

10.) $-8x + 3 = 6x - 4$

11.) $-3x - 9 = -2x - 3$

Solve the following equations for the variable. Justify all of your steps along the way.

12.) $-4x - 2x + 5 = -2x - x - 1$

STEPS:

13.) $8(y + 1) = 8y - y - 5$

STEPS:

Solve the following word problem. You must include the following: 1.) the equation for the problem, 2.) solving the problem with justification steps at each point, and 3.) your answer with a label.

14.) Container A has 300 L of water, and is being filled at a rate of 5 liters per minute. Container B has 550 L of water, and is being drained at 5 liters per minute. How many minutes, m , will it take for the two containers to have the same amount of water?

STEPS:

Solve the following equations. Identify if the equation is an identity (infinitely many solutions), has no solution, or has one solution.

15.) $2(-5x + 7) = -10x + 12$

16.) $5(x + 4) = 4x + 12 + x + 8$

17.) $7(y + 2) = 5y + 8$

Solve the following proportion.

18.) $\frac{2.6}{7.8} = \frac{5.2}{d}$

Solve the following equations using either of the percentage formulas.

19.) What is 35% of 123?

20.) 56 is 40% of what number?

Solve the following word problem. You must include the following: 1.) the equation for the problem and 2.) your answer with a label.

21.) You are out shopping and notice that the headphones you want are on sale. They are originally \$70. Right now, they are marked as 20% off. What is the sale price of the headphones?

Find the rate of change. State whether it is an increase or a decrease. Round your answer to the nearest percent.

22.) Original amount: 95 New amount: 115

23.) Original amount: 22 New amount: 14

Solve the following word problem. State whether the percent change is an increase or decrease. Then, solve for the percent change and round to the nearest percent.

24.) Gas prices started the year at \$3.15, they are now currently at \$2.90. State whether gas prices have increased or decreased from the beginning of the year and find the percent change, rounded to the nearest percent.

Find the relative error.

25.) A scientist doing an experiment estimated a foreign object to weigh 45 pounds. Upon measuring the object, he finds out that it actually weighs 52 pounds. What is the relative error? Round your answer to the nearest percent.

BONUS (3pts): Finish the phrase: "In West Philadelphia born and raised

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