

8th Grade Summer Math Assignment Attach additional pages if needed to show work

NAME: _____

CLASS: _____

1 The initial balance of a savings account was \$275. After which transactions will the balance of the savings account be the same as the initial balance?

A a withdrawal of \$232 followed by a deposit of \$278

B a deposit of \$278 followed by a withdrawal of \$278

C a withdrawal of \$115 followed by a deposit of \$312

D a deposit of \$205 followed by a withdrawal of \$317

2. If the expression below has a positive value, which inequality represents all possible values of x in the expression?

$$-3x$$

A $x < 0$

B $x > 0$

C $x \leq 0$

D $x \geq 0$

3. When converted to a decimal, which fraction will result in a repeating decimal?

A $\frac{3}{6}$

B $\frac{3}{9}$

C

$\frac{3}{12}$

D $\frac{3}{15}$

4. Graham's monthly bank statement showed the following deposits and withdrawals:

-\$25.20,

\$52.75, -\$22.04, -\$8.50, \$94.11

If Graham's balance in the account was \$47.86 at the beginning of the month, what was the account balance at the end of the month?

Show your work

5. On the first day camping, a group hiked at a rate of $2\frac{1}{4}$ miles per hour for $2\frac{1}{2}$ hours before taking a break. How many miles had the group hiked before the break?

Show your work.

8th Grade Summer Math Assignment Attach additional pages if needed to show work

NAME: _____

CLASS: _____

6. Find the value of the expression

$$\frac{5}{(-1.5+9.5)} + \frac{0.4(7+11)}{-0.2}$$

Show your work

7. A crew of highway workers paved $\frac{2}{15}$ mile in 20 minutes. If they work at the same rate, what portion of a mile will they pave in one hour?

Show your work

8. Ms Graves gave her class 12 minutes to

read. Carrie read $5\frac{1}{2}$ pages in that time.

At what rate, in pages per hour, did Carrie read?

Show your work.

9. The rectangular floor of a classroom is 36 feet in length and 32 feet in width. A scale drawing of the floor has a length of 9 inches. What is the area, in square inches, of the floor in the scale drawing?

Show your work

Answer _____ square inches

8th Grade Summer Math Assignment Attach additional pages if needed to show work

NAME: _____

CLASS: _____

10. The cost of oranges in a grocery store is directly proportional to the number of oranges purchased. Jerri paid \$2.52 for 6 oranges. If p represents the cost, in dollars, and n represents the number of oranges purchased, write an algebraic equation that best represents this relationship.

11. At a grocery store, the price of a watermelon is determined by how many pounds the watermelon weighs. The price of a watermelon that weighs 7.3 pounds is \$4.38.
Write an equation that can be used to determine the price, p , in dollars, of any watermelon based on the number of pounds, w , the watermelon weighs.

Explain the process you used to determine the equation.

Equation

Explain your answer:

12. The relationship between the length of one side of a square, x , and the perimeter of the square, y , can be represented in an xy -plane by a straight line. Which of the points with coordinates (x, y) lie on the line?

- A (2, 6) B(2, 8)
C (6, 2) D(8, 2)

13. Bananas cost \$0.45 per pound. What equation is used to find C the total cost of p pounds of bananas?

- A $C = 0.45p$ B $C = p + 0.45$
C $0.45C = p$ D $0.45 + C = p$

16. Suzanne bought a sweater at the sale price of \$25. The original cost of the sweater was \$40. What percent represents the discount that Suzanne received when buying the sweater?

- A 15% B 37.5%
C 60% D 62.5%

14. W Charis invested \$140. She earned a simple interest of 3% per year on the initial investment. If no money was added or removed from the investment, what was the amount of interest Charis received at the end of two years?

- A \$4.20 B \$6.00
C \$8.40 D \$12.60

17. A group of friends went to lunch. The bill, before sales tax and tip was \$37.50. A sales tax of 8% was added. The group then tipped 18% on the amount after the sales tax was added. What was the amount, in dollars, of the sales tax?

Show your work.

8th Grade Summer Math Assignment Attach additional pages if needed to show work

NAME: _____

CLASS: _____

Answer \$ _____

What was the total amount the group paid, including tax and tip?

Show your work.

Answer \$ _____

18. Mrs. Hamilton worked for a real estate agency. She sold a house for \$175,000. The agency's fee for the sale was 4% of the sale price. Mrs. Hamilton received \$4,725 of the agency's fee as her commission. What percent of the agency's fee did Mrs. Hamilton receive? Round your answer to the nearest tenth of a percent.

Show your work

Answer _____ %

19. Which expression is equivalent to

$$(7x - 5) - (3x - 2)?$$

A $10x - 7$

B $10x - 3$

C $4x - 7$

D $4x - 3$

20. Which expression represents a factorization of $32m + 56mp$?

A $8(4m + 7p)$

B $8(4 + 7)mp$

C $8p(4 + 7m)$

D $8m(4 + 7p)$

21. Rewrite in simplest form.

$$5(4c - 2d) + 2d - 6(d - 3)$$

Simplified form _____

Write the simplified expression in factored form.

Factored form

22. The expression $1.08(0.6p)$ represents the total amount Naomi paid for a jacket originally priced p dollars. Which changes to the original price could have resulted in this expression?

A The original price was reduced by 40% and then increased by 8%.

B The original price was reduced by 40% and then increased by 108%.

C The original price was increased by 60% and then increased by 8%.

D The original price was increased by 60% and then increased by 108%

23. Ms. Donaldson earns \$18.80 per hour for the first 40 hours she works in a week.

8th Grade Summer Math Assignment Attach additional pages if needed to show work

NAME: _____

CLASS: _____

She earns $1\frac{1}{2}$ times that amount per hour for each hour beyond 40 hours in a week. Last week Ms. Donaldson worked 45.5 hours. How much money did she earn?

Show your work

Answer \$ _____

24. Jackie bought 2 packages of paper for \$5.80 each and 4 notebooks for d dollars each. She spent a total of \$32 for the packages of paper and the notebooks. Write an equation, using d that represents the situation above.

Equation _____

Solve your equation and write the cost of 1 notebook in the answer blank.

Show your work.

Answer \$ _____

25. Jackie returned to the store later that day and bought n more notebooks at the same price. This time she used a store coupon for \$3.50 off her entire purchase. The total she

spent was more than \$18. Write an inequality to represent this situation.

Inequality _____
What was the least number of notebooks that Jackie could have bought this time?

Answer _____ notebooks

26. Cassie rolls a fair number cube with 6 faces labeled 1 through 6. She rolls the number cube 300 times. Which result is **most** likely?

A Cassie will roll a 1 or a 2 about 50 times.

B Cassie will roll a 1 or a 2 exactly 50 times.

C Cassie will roll an even number about 150 times.

D Cassie will roll an even number exactly 150 times.

27. A museum employee surveys a random sample of 350 visitors to the museum. Of those visitors, 266 stopped at the gift shop. Based on these results, about how many people out of 2,300 visitors to the museum would be expected to stop at the gift shop?

Show your work

8th Grade Summer Math Assignment Attach additional pages if needed to show work

NAME: _____

CLASS: _____

Answer

_____ visitors

28. Solve. Show work

$$\frac{3}{4}(4x - 8) = 12$$

Answer _____

29. What value for the constant, h , in the equation shown below will result in an infinite number of solutions?

$$6x + 18 = h(3x + 9)$$

A -2

B -3

C 2

D 3

30. Determine the number of solutions that exist to the equation below.

$$8(j - 4) = 2(4j - 16)$$

Show your work

Answer _____

31. What, if any, are the solutions to the

$$\text{equation } 3(0.5x - 4) = \frac{3}{2}x - 1.2?$$

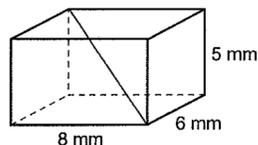
Show your work

Answer _____

32. A park is in the shape of a rectangle 8 miles long and 6 miles wide. How much shorter is your walk if you walk diagonally across the park than along the two sides of it? **Show work**

Answer _____

33. Find the diagonal length of the prism



Show work

Answer _____

34. A 250-foot length of fence is placed around a three-sided animal pen. Two of the sides of the pen are 100 feet long each. Does the fence form a right triangle? Prove that your answer is correct.

Show work

Answer _____