

Name: _____ Date: _____

Algebra 1A Summer Assignment for 2019-2020 School Year

1. Solve $-3y + 9 = -15 + 9y$.
2. There are 87 green balls and 41 red balls in a bag. If one is randomly selected, what is the probability that it will be a green ball? Write your answer as a decimal to the nearest hundredth.
3. Solve $-\frac{1}{8}x = 18$.
4. \$75 is 20% of what amount?
5. The sales tax is \$44.75 on a TV that sells for \$895. What is the sales tax rate (as a percent)?
6. A briefcase measures 10 inches by 4.9 inches by 13.7 inches. Find the volume of the briefcase.

7. Find the unknown number in the proportion $\frac{5}{x} = \frac{20}{16}$.
8. Andrea wants the area of her rectangular garden to be at least 36 square feet. If the garden is 4 feet wide, what must the length be? Express your answer as an **INEQUALITY**.
9. Simplify $72 \div 8 + 8 \cdot (-4)$
10. Find the mean number of phone calls made by a salesperson over the past 8 hours: 8, 21, 3, 19, 27, 41, 35, 32.
11. Express $(-6x)(-6x)(-6x)(-6x)$ in exponential form.
12. Simplify completely: $5(y + 2c) - 4c$
13. Write an algebraic expression to represent the phrase: "The sum of 5 and 7 times a number."

14. Solve $7.93 - 15.2x = 0.66x$.
15. Evaluate $(-7)^4$.
16. Find the slope of the line that passes through the points $(-1, 5)$ and $(2, -1)$.
17. Find the x -intercept and the y -intercept of the line represented by $-3x + 5y = 15$.
18. Simplify $7n^2 + 7p^2 - 4n^2 + p^2$
19. A tree trunk has a radius of 11 inches. What is the circumference of the tree trunk to the nearest tenth? Use 3.14 for pi. ($C = 2\pi r$)
20. Determine the better buy. You MUST give the unit rate for each quantity.
- | | | |
|----------|-----------------------------------|------------------|
| Brand A: | an 8 oz can of peaches for \$0.59 | Unit Price-_____ |
| Brand B: | a 20 oz can of peaches for \$1.49 | Unit Price-_____ |

Which is the better buy? _____

2. Bruce took a survey of high school students to see how many had part-time jobs last summer. The results of the survey are shown in the table. Compare the probability that a student in the senior class had a part-time job to the probability that a student in the junior class had a part-time job.

Grade Level	Students Who Had a Summer Job	Students
Freshman	23	70
Sophomore	10	63
Junior	20	35
Senior	22	54

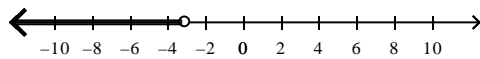
- a. A senior is more likely than a junior to have a job.
- b. A senior is less likely than a junior to have a job.
- c. A senior is just as likely as a junior to have a job.

3. Joel is an amateur bird watcher. During one trip, he measured the amount of time it took to watch 5 birds as $5\frac{1}{2}$ seconds, 3 seconds, $8\frac{1}{4}$ seconds, $6\frac{1}{6}$ seconds, and $2\frac{5}{8}$ seconds. What is the mean amount of time Joel measured?

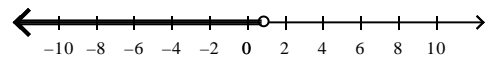
- a. $4\frac{3}{20}$ seconds
- b. $5\frac{3}{20}$ seconds
- c. $3\frac{3}{20}$ seconds
- d. $2\frac{3}{20}$ seconds

4. Solve and graph: $n - 8 + 3n < -4$

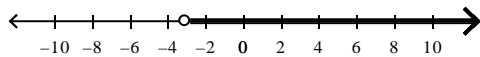
a. $n < -3$



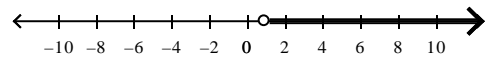
c. $n < 1$



b. $n > -3$

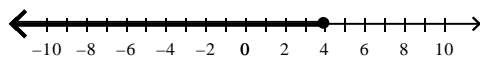


d. $n > 1$

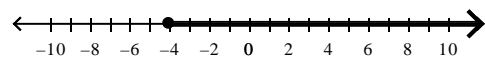


5. Solve and graph: $\frac{r}{-2} \geq 2$

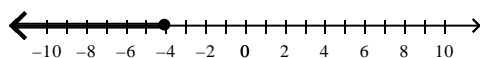
a.



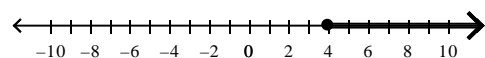
c.



b.



d.



_____ 6. Solve: $8a - 10 = 6a$

a. $a = -0.3$

b. $a = 5$

c. $a = 2$

d. $a = 0$

_____ 7. A manufacturer inspects 500 personal video players and finds that 496 of them have no defects. The manufacturer sent a shipment of 2000 video players to a distributor. Predict the number of players in the shipment that are likely to have no defects.

a. 16

b. 1840

c. 496

d. 1984

_____ 8. Genna wants to have a magician for her birthday party. She has \$189 to spend. To have a magician come, there is an initial fee of \$45, plus \$24 per hour. How many hours can Genna have the magician stay?

a. 6 hours

b. 120 hours

c. 3.7 hours

d. 5 hours

_____ 9. A machine can pack a 3 ft. by 2 ft. by 2 ft. carton with Styrofoam "peanuts" in 3 seconds. How long would it take to fill a carton that measures 4 ft. by 5 ft. by 6 ft.?

a. 24 sec

b. 30 sec

c. 36 sec

d. 6.4 sec

_____ 10. Simplify: $9(4t + 6) + 3t$

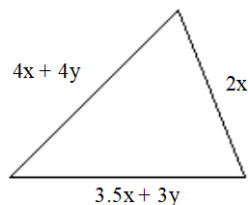
a. $33t + 54$

b. $39t + 54$

c. $39t - 54$

d. $39t + 6$

_____ 11. Find the perimeter of the figure.



a. $56x^3 + 12y^2$

b. $16.5xy$

c. $9.5x + 7y$

d. $56x + 12y$

_____ 12. Solve $\frac{y-5}{6} = 6$.

a. $y = 41$

b. $y = 66$

c. $y = 53$

d. $y = 31$

_____ 13. A toy box measures 6 ft by 5 ft by 8 ft. If the width of the box were changed from 5 ft to 35 ft, how would the volume of the box change?

- a. no change
- b. increased 49 times
- c. increased 7 times
- d. decreased 7 times

_____ 14. Melanie is making a piece of jewelry that is in the shape of a right triangle. The two shorter sides of the piece of jewelry are 9 mm and 12 mm. Find the perimeter of the piece of jewelry.

- a. 32 mm
- b. 36 mm
- c. 30 mm
- d. 34 mm

_____ 15. Write an algebraic expression for the word phrase: *8 less than y times 28*

- a. $28y + 8$
- b. $8 - 28y$
- c. $28y - 8$
- d. $28y - 8y$

_____ 16. Determine if the sequence is arithmetic or geometric; and give the common difference or common ratio:

0.125, 1.25, 125, 1250, ...

- a. *Arithmetic*, 125
- b. *Arithmetic*, 10
- c. *Geometric*, 10
- d. *Geometric*, $\frac{1}{12}$