Name_____ Class_____

Algebra 1 Mr. Del Re & Ms. Edwards

8th Grade Algebra 1 Summer Assignment (2025)

Due: Monday September 23rd

When necessary, justify your answer by showing your work algebraically. Each question is worth 4 points each (92 points total). You will get 8 points for putting your full name and submitting the assignment on time to receive a possible grade of 100.

1) The sixth-grade classes at West Road Elementary School were asked to vote on the location of their class trip. The results are shown in the table below.

	Playland	**Splashdown**	**Fun Central**
Boys	38	53	25
Girls	39	46	37

Determine, to the *nearest percent*, the percentage of girls who voted for Splashdown.

2) When the expression $2x(x - 4) - 3(x + 5)$ is written in simplest form, the result is

1) $2x^2 - 11x - 15$

2) $2x^2 - 11x + 5$

3) $2x^2 - 3x - 19$

4) $2x^2 - 3x + 1$

3) Alex is selling tickets to a school play. An adult ticket costs $6.50 and a student ticket costs $4.00. Alex sells x adult tickets and 12 student tickets. Write an equation, to represent how much money Alex collected from selling tickets.

4) A public opinion poll was taken to explore the relationship between age and support for a candidate in an election. The results of the poll are summarized in the table below.

Age	For	Against	No Opinion
21-40	30	12	8
41-60	20	40	15
Over 60	25	35	15

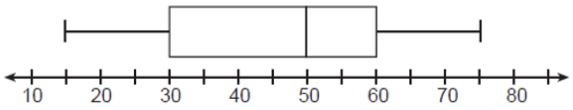
What percent of the 21- 40 age group was for the candidate?

1) 15
2) 25
3) 40
4) 60

5) A survey of 100 students was taken. It was found that 60 students watched sports, and 34 of these students did not like pop music. Of the students who did *not* watch sports, 70% liked pop music. Complete the two-way frequency table.

	Watch Sports	Don't Watch Sports	Total
Like Pop			
Don't Like Pop			
Total			

6) A box plot is shown below.



Which number represents the third quartile?

1) 30
2) 50
3) 60
4) 75

7) Jordan works for a landscape company during his summer vacation. He is paid $12 per hour for mowing lawns and $14 per hour for planting gardens. He can work a maximum of 40 hours per week, and would like to earn at least $250 this week. If m represents the number of hours mowing lawns and g represents the number of hours planting gardens, which system of inequalities could be used to represent the given conditions?

1) $m + g \leq 40$
$12m + 14g \geq 250$

2) $m + g \geq 40$
$12m + 14g \leq 250$

3) $m + g \leq 40$
$12m + 14g \leq 250$

4) $m + g \geq 40$
$12m + 14g \geq 250$

8) The amount Mike gets paid weekly can be represented by the expression $2.50a + 290$, where a is the number of cell phone accessories he sells that week. What is the constant term in this expression and what does it represent?

1) *2.50a,* the amount he is guaranteed to to be paid each week.

2) *2.50a,* the amount he earns when he sells a accessories.

3) *290,* the amount he is guaranteed to be paid each week.

4) *290,* the amount he earns when he sells a accessories.

9) Students were asked to name their favorite sport from a list of basketball, soccer, or tennis. The results are shown in the table below.

	Basketball	**Soccer**	**Tennis**
Girls	42	58	20
Boys	84	41	5

What percentage of the students chose soccer as their favorite sport?

1) 39.6 %

2) 41.4 %

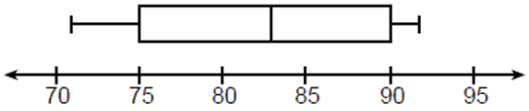
3) 50.4%

4) 58.6

10) Joy wants to buy strawberries and raspberries to bring to a party. Strawberries cost $1.60 per pound and raspberries cost $1.75 per pound. If she only has $10 to spend on berries, which inequality represents the situation where she buys x pounds of strawberries and y pounds of raspberries?

1) $1.60x + 1.75y \leq 10$
2) $1.75x + 1.60y \leq 10$
3) $1.60x + 1.75y \geq 10$
4) $1.75x + 1.60y \geq 10$

11) The box plot below summarizes the data for the average monthly high temperatures in degrees Fahrenheit for Orlando, Florida.



The third quartile is

1) 92
2) 90
3) 83
4) 71

12) Jenna took a survey of her senior class to see whether they preferred pizza or burgers. The results are summarized in the table below.

	Pizza	**Burgers**
Male	23	42
Female	31	26

Of the people who preferred burgers, approximately what percentage were female?

1) 21.3
2) 38.2
3) 45.6
4) 61.9

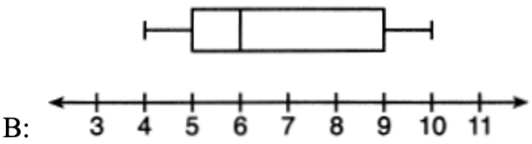
13) When solving $p^2 + 5 = 8p - 7$, Kate wrote $p^2 + 12 = 8p$. The property she used is

1) the associative property
2) the commutative property
3) the distributive property
4) the addition property of equality

14) Below are two representations of data.

A: 2, 5, 5, 6, 6, 6, 7, 8, 9

B:



Which statement about *A* and *B* is true?

1) median of *A* > median of *B*
2) range of *A* < range of *B*
3) upper quartile of *A* < upper quartile of *B*
4) lower quartile of *A* > lower quartile of *B*

15) The value of Tony's investment was $1140 on January 1st. On this date three years later, his investment was worth $1824. The average rate of change for this investment was $19 per

1) day
2) month
3) quarter
4) year

16) A high school club is researching a tour package offered by the Island Kayak Company. The company charges $35 per person and $245 for the tour guide. Which function represents the total cost, C(x), of this kayak tour package for *x* club members?

1) C(x) = 35x
2) C(x) = 35x + 245
3) C(x) = 35(x + 245)
4) C(x) = 35 + (x + 245)

17) The expression 3(x + 4) – (2x + 7) is equivalent to

1) x + 5
2) x – 10
3) x – 3
4) x + 11

18) Donna and Andrew compared their math final exam scores from grade 8 through grade 12. Their scores are shown below.

Donna	
8th	90
9th	92
10th	87
11th	94
12th	95

Andrew	
8th	78
9th	96
10th	87
11th	94
12th	93

Which statement about their final exam scores is correct?

1) Andrew has a higher mean than Donna.

2) Donna and Andrew have the same median.

3) Andrew has a larger interquartile range than Donna.

4) The 3rd quartile for Donna is greater than the 3rd quartile for Andrew.

19) Peter has \$100 to spend on drinks for his party. Bottles of lemonade cost \$2 each, and juice boxes cost \$0.50 each. If x is the number of bottles of lemonade and y is the number of juice boxes, which inequality models this situation?

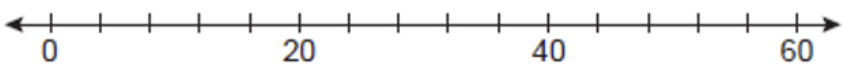
1) $0.50x + 2y \leq 100$

2) $2x + 0.50y \leq 100$

3) $0.50x + 2y \geq 100$

4) $2x + 0.50y \geq 100$

20) The data set 20, 36, 52, 56, 24, 16, 40, 4, 28 represents the number of books purchased by nine book club members in a year. Construct a box plot for these data on the number line below.



21) At Benny's Cafe, a mixed-greens salad costs $5.75. Additional toppings can be added for $0.75 each. Which function could be used to determine the cost, $c(s)$, in dollars, of a salad with s additional toppings?

1) $c(s) = 5.75s + 0.75$
2) $c(s) = 5.00s + 0.75$
3) $c(s) = 0.75s + 5.75$
4) $c(s) = 0.75s + 5.00$

22) Some adults were surveyed to find out if they would prefer to buy a sports utility vehicle (SUV) or a sports car. The results of the survey are summarized in the table below.

	SUV	Sports Car	Totals
Male	21	38	59
Female	135	46	181
Totals	156	84	240

Of the number of adults that preferred sports cars, approximately what percent were males?

1) 15.8
2) 45.2
3) 64.4
4) 82.6

23) Ashley only has 7 quarters and some dimes in her purse. She needs at least $3.00 to pay for lunch. Which inequality could be used to determine the number of dimes, d, she needs in her purse to be able to pay for lunch?

1) $1.75 + d \geq 3.00$
2) $1.75 + d \leq 3.00$
3) $1.75 + 0.10d \geq 3.00$
4) $1.75 + 0.10d \leq 3.00$