

Pre-Algebra Practice Test
Session 1 – No Calculator

1.) One-third pound of tomato sauce is needed for each pan of lasagna. How many pans of lasagna can be made from $7\frac{2}{3}$ pounds of tomato sauce?

2.) Which equation shows the relationship between the x - and y -values in the table to the right?

x	0	1	2	3
y	3	5	7	9

F $y = x + 3$

H $y = 3x$

G $y = 3x - 1$

I $y = 2x + 3$

3.) Mr. Roe contributes \$100 to his son's savings account, monthly. What integer represents the change to his son's account each month?
A. +\$100 B. -\$100 C. +\$200 D. +\$300

4.) Find $\frac{1}{3} \times 3\frac{3}{4}$. Write in simplest form.

A. $3\frac{1}{4}$

B. 4

C. $1\frac{1}{4}$

D. $\frac{1}{4}$

5.) Which expression is equivalent to $7x + 5 - x - 3$

A. $8x + 8$

C. $8x + 2$

B. $6x + 8$

D. $6x + 2$

6.) Edmundo has 12 trading cards. Each week he buys 4 more trading cards. Which expression shows how many trading cards Edmundo has during week n ?

F $4 + 12$

G $12n + 4$

H $4n + 12$

I $4n + 12n$

7.)

At 6:00 A.M., the temperature was 10° below zero. During the day, the temperature rose an average of 2° per hour. If h represents the number of hours since 6:00 A.M., which equation represents the temperature T ?

A $T = 2h + 10$

C $T = -2h - 10$

B $T = -2h + 10$

D $T = 2h - 10$

8.) There are 10 marbles in a bag: 1 blue, 4 yellow, 3 red, and 2 white. If you choose a marble at random, which is the probability that you will NOT choose white?

A. $1/5$

B. $4/5$

C. 2

D. 8

9.) David bought a pack of baseball cards. He kept half of these cards for himself. David gave the rest of the pack to 4 friends. Each friend got 6 cards. How many baseball cards were in the pack?

A 48

B 36

C 24

D 12

10.) Michael's age is 3 years older than Jordan. Jordan is 2 years older than Keanu. Keanu is 17 years old. How old is Michael?

A Michael is 12 years old, because he is 5 years younger than Keanu.

B Michael is 22 years old, because he is 5 years older than Keanu.

C Michael is 8 years old, because he is 5 years younger than Jordan, and Jordan is 13 years old.

D Michael is 18 years old, because he is 5 years older than Jordan, and Jordan is 13 years old.

11.) Evaluate 5^0

12.) Between which two numbers on a number line does $\sqrt{92}$ fall?

- A 6 and 7 C 8 and 9
 B 7 and 8 D 9 and 10

13.) What is the solution of the system of equations?

$$y = 3x$$

$$y = x + 4$$

- A. (0, 5) C. (1, 4)
 B. (2, 6) D. $(1\frac{1}{2}, -4\frac{3}{4})$

14.) The frequency table shows the test scores for Mrs. Rodriguez's English class. What is the relative frequency for a test score of 91 - 100%?

Test Scores		
Score (%)	Tally	Frequency
91-100		6
81-90		8
71-80		5
61-70		3

- F $\frac{3}{11}$ G $\frac{3}{10}$ H $\frac{4}{11}$ J $\frac{2}{5}$

15.) Which of the following sets of numbers is correctly ordered from least to greatest?

- F 4.2, $\sqrt{16}$, $4\frac{1}{3}$, $\sqrt{18}$
 G 4.2, $\sqrt{16}$, $\sqrt{18}$, $4\frac{1}{3}$
 H $\sqrt{16}$, 4.2, $4\frac{1}{3}$, $\sqrt{18}$
 J $\sqrt{16}$, 4.2, $\sqrt{18}$, $4\frac{1}{3}$

16.) Solve the equation below for x.

$$2x - 6 = -6x + 10$$

17.)

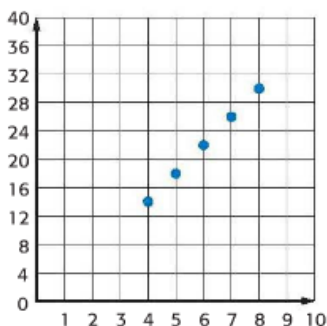
Which expression is equivalent to $-3(8m - 10)$?

- F $-24m - 30$ H $24m - 30$
 G $-24m - 10$ I $-24m + 30$

18.) Which of the following sets of numbers does $\sqrt{144}$ NOT belong?

- A integer
 B real number
 C rational number
 D irrational number

19.) Which function rule best represents the rule from the graph shown below?



- F. $4n$ H. $4n - 2$
 G. $4n + 2$ I. 4

20.) Jane charges \$5 per hour for babysitting. Last week, she earned a total of \$55. Which of the following equations could be used to find the number of hours h she babysat last week?

- A. $h \div 55 = 5$
 B. $5h = 55$
 C. $5 + h = 55$
 D. $55 - h = 5$

21.) Which function described below has the lowest rate of change?

I $f(x) = 4x - 3$

II $f(x) = \frac{1}{2}x + 5$

III

x	f(x)
1	6
2	12
3	18
4	24

A I

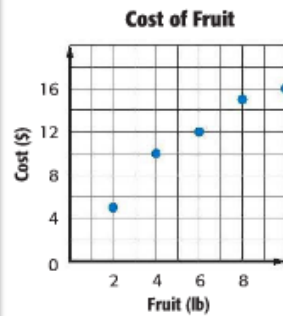
B II

C III

D They all have the same rate of change.

22.) The scatter plot shows the cost of fruit Franco bought from a produce stand in relation to the weight of the fruit.

Which statement is **best** supported by this scatter plot?



E. As Franco bought more pieces of fruit, the cost of the fruit increased.

G. As Franco bought fewer pieces of fruit, the cost of the fruit decreased.

H. As Franco bought fewer pounds of fruit, the number of pieces of fruit decreased.

I. As Franco bought more pounds of fruit, the cost of the fruit increased.

23.) Which of the following is equivalent to the expression $9^6 \times 9^{-14}$

A. 9^{20}

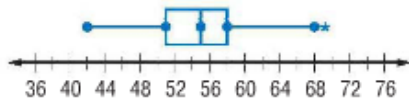
B. 9^8

C. $\frac{1}{9^8}$

D. $\frac{1}{9^{20}}$

24.) Mrs. Smith wrote the function $f(x) = -3x - 12$ on the chalkboard. What is the value of the function for $f(-2)$?

25.) Which of the following statements is **NOT** true about the box-and-whisker plot below?



F. The value 69 is an outlier.

G. Half of the data is above 55.

H. $\frac{1}{4}$ of the data is in the interval 58–69.

I. There are more data values in the interval 42–51 than there are in the interval 55–58.

Pre-Algebra Practice Test
Session 2 –Calculator Permitted

26.) Jessica earned \$87 for 12 hours. If Jessica is paid the same rate, how much will she earn for babysitting 5 hours?

27.) The school drama club sold 500 tickets to their show. If 90 of the tickets were adult tickets, what percent of the tickets sold were adult tickets?

- | | |
|--------------|--------------|
| F 18% | H 55% |
| G 45% | J 90% |

28.) What is the decimal expansion of $\frac{13}{18}$

- | | |
|-----------------|-----------------|
| a. -0.72 | c. -0.7 |
| b. <u>-0.72</u> | d. <u>-0.72</u> |

29.) Which equation is NOT equivalent to $A = \frac{1}{2}bh$?

- | | |
|-----------------------------|-----------------------------|
| F $2b = \frac{A}{h}$ | H $A = \frac{bh}{2}$ |
| G $b = \frac{2A}{h}$ | I $2A = bh$ |

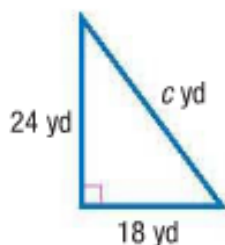
30.) Which expression is equivalent to 2^6 ?

- | | |
|--------------------|-----------------------|
| a. $2^3 \cdot 2^3$ | c. $4^{12} \div 4^2$ |
| b. $4^3 \cdot 4^3$ | d. $16^{12} \div 4^2$ |

31.) Patricia jogs 8 laps around a track in 368 seconds. Which of the following would be the same number of laps per minute?

- | | |
|--------------------------|---------------------------|
| a. 7 laps in 9.6 minutes | c. 12 laps in 9.2 minutes |
| b. 10 laps in 16 minutes | d. 8 laps in 20 minutes |

32.) The triangle below is a right triangle. Find the measure of the missing side.



33.) Which of these expressions is equivalent to n^5 ?

- | | |
|--|---------------|
| a. $n \times n \times n \times n \times n$ | c. $5n$ |
| b. $n + n + n + n + n$ | d. $n(n + 5)$ |

34.) Keith budgets \$85 for his monthly cell phone bill. This is \$50 less than his monthly savings deposit. How much money does Keith save each month?

35.) What is the slope of the function described in the table below?

Weight (pounds)	Price (dollars)
x	y
6	9
4	6
2	3
0	0

36.) Choose all of the following that are true when a and b are different real numbers.

- a. $a + b = b + a$
- b. $a \div b = b \div a$
- c. $\frac{0}{a} = 0, a \neq 0$
- d. If $ab = 0$, then $a = 0$ or $b = 0$.
- e. none of these

37.) In the equation $T = -0.25x +$, the T represents the total rainfall. The x represents the daily change in the amount of rain. Which statement is correct?

- a. For everyday the rain decreases by $\frac{1}{4}$ inch
- b. For everyday the rain increases by $\frac{1}{4}$ inch
- c. For everyday the rain decreases by 2 inches
- d. For everyday the rain increased by 2 inches.




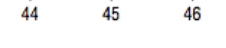
38.) Molly has \$5.20 in dimes and quarters. The number of dimes is 3 more than the number of quarters. Which system of linear equations can be used to find d , the number of dimes, and q , the number of quarters?

- F $3q + d = 5.20$
 $q + d = 0.35$
- G $d = 3 + q$
 $0.10d + 0.25q = 5.20$
- H $(q + 3) + q = 5.20$
 $q + d = 0.35$
- J $q = 3 + d$
 $0.10d + 0.25q = 5.20$

39.) Using the information from problem 38, determine how many dimes Molly has.

- a. 17000
- b. 1700
- c. 170
- d. 17

40.) Tina has \$45 to spend at the store. Which inequality and graph describes how much money Tina can spend?

- A $t \geq 45$; 
- B $t \leq 45$; 
- C $t \geq 45$; 
- D $t \leq 45$; 

41.) The area of a square is 12 meters. Which of these is closest to the length of one side of the square?

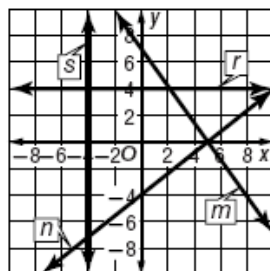
- a. 2 meters
- b. 2.8 meters
- c. 3.5 meters
- d. 4 meters

42.) $-3x \geq 21$ is equivalent to _____.

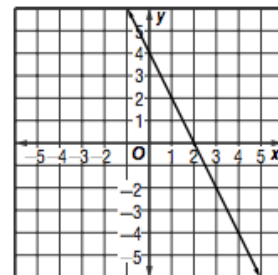
43.) If $-5(4 + x) = 15$ then $x =$ _____

44.) Which pair of lines represents the system of equations with a solution of $(5, 0)$?

- a. Lines m and n
- b. Lines m and r
- c. Lines n and r
- d. Lines r and s



45.) What is the equation of the line shown?



- F $y = -2x + 4$
- G $y = 4x - 2$
- H $y = -2x - 4$
- I $y = 4x + 2$

46.) You want to purchase a necklace for \$325. You have already saved \$115 and can set aside \$22 a week. Which inequality can be used to find the number of weeks it will take to save at least \$325?

- A. $22w + 115 \geq 325$
- B. $22w + 115 \leq 325$
- C. $22 + 115w \leq 325$
- D. $22w + 115 < 325$

47.) What is an equation of the line with a slope of -2 and y-intercept of -5?

- a. $y = 2x + 5$
- b. $y = -2x - 5$
- c. $y = -5x - 2$
- d. $y = 5x + 2$

48.) What is the slope of the line thru the points (-3, -2), (5, 4)?

49.) Which of the following inequalities has the solution set shown below?



- A. $-2x - 5 < 7$
- B. $-2x - 5 > 7$
- C. $-2x - 5 \leq 7$
- D. $-2x - 5 \geq 7$

50.) Identify the slope and y-intercept of the equation below.

$$y = \frac{3}{4}(x + 12)$$

- a. $m = 1, b = 12$
- b. $m = \frac{3}{4}, b = 12$
- c. $m = \frac{3}{4}, b = 9$
- d. $m = 1, b = 9$

Manatee District Schools
Pre-Algebra Practice Test - Answer Key

Session 1

No Calculator Portion

- 1) 23
- 2) I
- 3) A
- 4) C
- 5) D
- 6) H
- 7) D
- 8) B
- 9) A
- 10) B
- 11) 1
- 12) D
- 13) B
- 14) F
- 15) J
- 16) $x = 2$
- 17) I
- 18) D
- 19) H
- 20) B
- 21) B
- 22) I
- 23) C
- 24) -6
- 25) I

Session 2

Calculator Portion

- 26) 36.25
- 27) F
- 28) B
- 29) F
- 30) A
- 31) C
- 32) 30
- 33) A
- 34) 135
- 35) $3/2$
- 36) A, C, D
- 37) B
- 38) G
- 39) D
- 40) B
- 41) C
- 42) $x \leq -7$
- 43) $x = -1$
- 44) A
- 45) F
- 46) A
- 47) B
- 48) $3/4$
- 49) D
- 50) C