MasterMath

8th Grade Quarter 3 Exam

Name _____

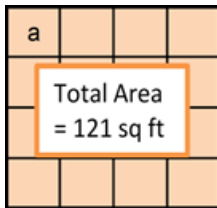Date _____

1. The area of a circle is 113.04 Sq In. What is the radius of the circle?

   | 6" |

2. The larger square is made up of 16 smaller squares. What is the length of the sides of square "a"?

   Total Area = 121 sq ft

   | 2.75 ft |

3. Without using a calculator, estimate the square root of 146.
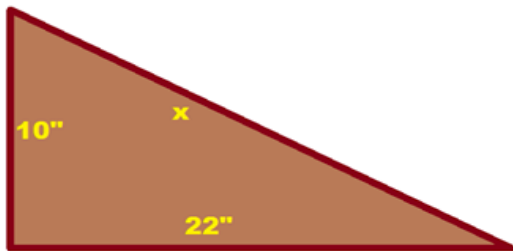
   | 12 |

4. Find x

   | 5.67' |

   Area of Square = 16 sq ft

5. Find x

   | 24.17" |

   10"   x   22"

6. The hypotenuse of a triangle is √20', and the height is 4'. What is the length of the base?

   | 2" |

Simplify the expressions in Questions 7-9:

7. $4\sqrt{5} + 3\sqrt{5}$

   | 7√5 |

8. $\sqrt{24} - 2\sqrt{6}$

   | 0 |

9. $\sqrt{1/9}$

   | 1/3 |

Based upon the data in this chart, answer these questions:

Age of Students
18
17
20
19
46
16
17
14
19

10. What is the mean?   →   20.67

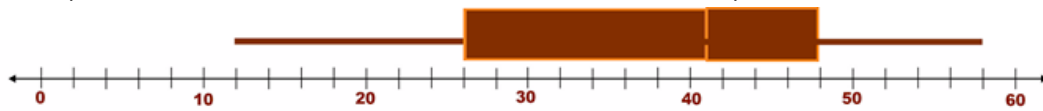11. What is the median?   →   18

12. What is the mode?   →   17 & 19

13. Why is there such large a variance in the measures of central tendency?   →   The 46 yr old student is an outlier

Based upon this Box-And-Whiskers Polt, answer these questions:

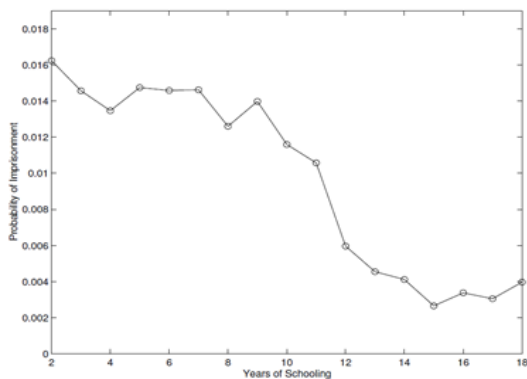14. What percentage of the data is between 26 and 48?   →   50%

15. What is the median?   →   41

16. The bottom 25% of the data falls within what range?   →   12 - 26

Based upon this Scatter Plot, answer these questions:

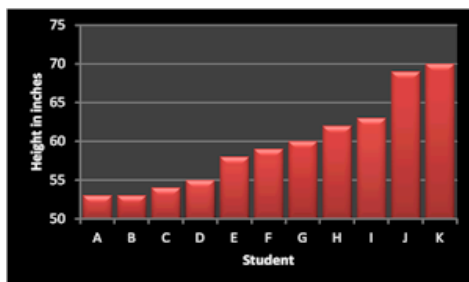
17. Does there appear to be a correlation shown? If so, what type?   →   yes, negative

18. In your own words, describe what the scatter plot shows us.   →   The more years of schooling an individual has, the lower the probability of Imprisonment.

19. Why is this not a good choice for data display?

The y axis starts at 50, and that will distort the differences between the students.
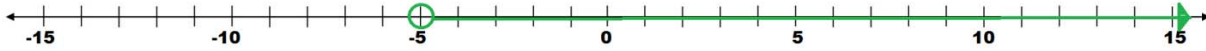
20. If I wanted to create a visual display of data that described 46 categories of food items, would a circle graph be a good choice?

| No, that probably too many categories for a circle graph. |

21. Please translate into a math expression: twice a number is larger than 12.

| 2x > 12 |

22. Translate this number line into math, with x as the variable.

| x > -5 |

23. Translate into a math expression: "Everyone at the movie was at least twelve years old."

| x $\geq$ 12 |

24. Please solve this inequality: 2x + 3 < 6

| x < 1½ |

25. Your lemonade stand sells lemonade for $3 per glass. Write and solve an equation that represents how many glasses of lemonade you need to sell to make at least $30.

| x > 10 |

26. Convert 144 to an exponential expression

| $2^4 * 3^2$ |

27. Convert $5^3 * 3^2$ to a simple number

| 1125 |

28. Simplify this expression: $(2x^2y)(3xy^3)$

| $6x^3y^4$ |

29. Solve for x: $(x^2)^3$ = 64

| x = 2 |

30. Satelites have taken photographs of the earth from altitudes of 2^{19} meters up to a height of about twice that. Express the higher altitude as an exponent.

| 2^{20} meters |