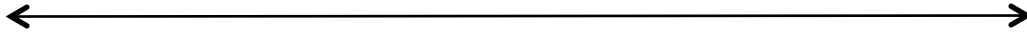# Rising 8th Grade

On-Level Math Review

DIRECTIONS:

This is your Rising 8th Grade On-Level Math Review that you will need to be prepared to turn into your 8th grade math teacher. Show your work on notebook paper, number each problem, and either circle or box your answer. BE NEAT with your work! These problems came from the Reviews you completed from each of the units studied in 7th grade.

Graph and order from least to greatest.

$\{-4, 7, -2, 0, -1, 3, 2\}$

1. _____ (in order from least to greatest)

Find the Absolute Value:

2. $|-96|$ _____

3. $-|-21|$ _____

Compare Using < or >:

3. -13 _____ 13

4. -12 _____ -20

Evaluate each expression:

5. $-21 + (-5) + (-4)$

6. $(-2) \cdot (-8) \cdot (5)$

7. $8 - 8b + 6 - (-4)$

8. $4 + 7 \cdot 5 - 8$

9. $3 (2 + 6)^2 \div 2$

10. $(7 + 3)^2 - 10 \div 5$

Translate into equations. DO NOT SOLVE.

11. Sixty-eight is twelve less than x.

12. The sum of five and the quotient of x and four is 9.

Combine Like Terms. If already simplified, write "simplified."

13. $3(4a - 2b) - 5(3a + b)$ 14. $4a - 2b + 16$

Solve and check each problem

15. $x + 7 = 32$ 16. $a - 15 = -3$

17. $-a = 16$ 18. $x - (-12) = 5$

19. $165 = -15\,p$ 20. $\dfrac{r}{172} = -6$

Rates and Unit Rates:

21. Which would be the best buy: 8 bananas for $1.92 or 13 bananas for $4.03 ?

22. Dorothy bought 3 boxes of Cracker Jacks for $4.86. Find the unit price.

23. Nick can mow 2 ½ yards in 5 hours. How many yards can he mow one hour?

Unit Rate Conversions:

24. 6 feet = _____ inches   25. 63 days = _____ weeks

26. James is renting tables for a party. The tables rent for $6 per hour and there is a $20 delivery fee. Complete the table

Hours Rented	Total cost ($)
1	

27. Is the relationship in this problem proportional or non-proportional?

28. If it is proportional, what is the constant of proportionality?

29. Using the constant of proportionality, write a direct variation equation.

30. Make a graph from the information.

31. A survey found that 28% of 7th graders have an iPhone. Predict how many of the 350 7th graders have an iPhone.

32. A study of fish is being conducted in a pond. They marked 30 fish and released them. The next day, they counted 75 fish, 25 of them which had been marked. Find the best estimate of the fish population in the pond.

33. Name any outliers in the following data:

17   19   21   82   18   20   1   17

34. All 7th graders at Mabry Middle School took the same 50 point quiz. Sample scores are listed:

48	**40**	**42**	**36**	**24**	**50**	**40**	**44**

Find the mean of the quiz scores.

35. Using the information from #34, find the mode of the quiz scores.

36. Using the information from #34, find the median of the quiz scores.

37. Using the information from #34, find the range of the quiz scores.

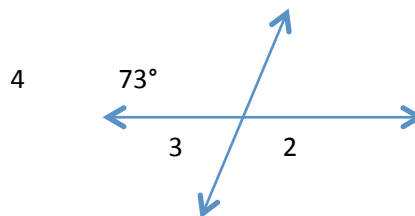38. Using the information from #34, find the MAD of the quiz scores.

39. If the data is spread out evenly, the measure of center that is best to use is

the_____.

40. If there are outliers in the data, the best measure of center to use is the

_____.

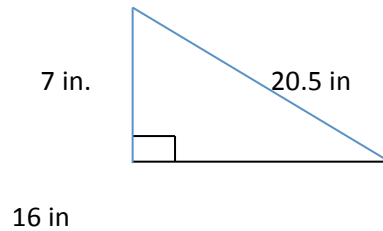41. What are the 3 characteristics/facts of every triangle?

42. What are the vertical and horizontal cross sections for cylinders?
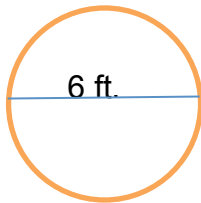
43. What is the measure of <3   4   73°
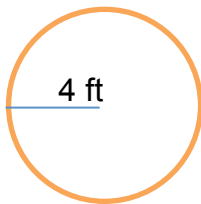
44. Using the figure in #43, what is the measure of <4?

45. What is the area of the triangle?

7 in.   20.5 in

16 in

46. What is the area of this circle?

6 ft.

47. What is the circumference of this circle?

4 ft

48. Nick and Barbara are driving around a circular round-about. The diameter of the round-about is .25 miles. If they drove twice around the round-about, how many miles have they driven? (Hint: draw a picture)

49. In any given circle, how do you find π?

50. What are the vertical and horizontal cross sections of cones?

51. A bag of marbles contains 7 red, 12 orange, 3 blue and 6 multi-colored marbles. What is the probability of randomly selecting a marble that is NOT red?

52. Find the probability of rolling a die and it landing on a number greater than 4?

53. Find the probability of rolling a die and NOT getting a 2 or 4?

54. Draw a tree diagram to show the **sample space** of spinning a spinner with orange, blue, yellow, red and green and then flipping a coin.

55. You are having lunch at Taco Bell. You have your choice of a taco, burrito or Mexican pizza. You can choose between rice and beans. Draw a tree diagram to show **the sample space**.

56. Maria is going to prom. She has a choice of a short dress, a knee length dress or a long dress. She can choose from pink, royal blue, black or gold. She can also have sparkles or no sparkles. If she can choose from flat shoes or heels, **how many** different possible outfits can she put together?

57. If 12 out of 30 people like KitKat bars over Almond Joy, how many people out of 330 would you predict would prefer KitKat?

58. Three cards numbered 1, 3, 6 are placed in one bag labeled "A". Three cards numbered 7, 8 and 10 are placed in a bag labeled "B". A card is randomly drawn from each bag. What is the **probability** that NEITHER cards drawn are even numbers?

59. Emily is going to the beach for spring break. She has 8 different bathing suits, 5 pairs of shorts, 3 cover-ups and pink and yellow flip flops. If all the colors and patterns coordinate, **how many** different outfits can she make?

60. You go to Waffle House for breakfast. You can choose to have fried eggs or scrambled eggs, cheese or no cheese, bacon or sausage, grits or hashbrowns, white, wheat or raisin toast. **How many** breakfast combinations are there to choose from?