Rising 8th Grade Math - SUMMER
Assessment A (Open-ended)

Name _____

Date _____ Pd _____

Rising 8th Grade Summer Math Practice (7th Review)

Solve the problems below, and be sure to show all work. Use 3.14 for pi when necessary.

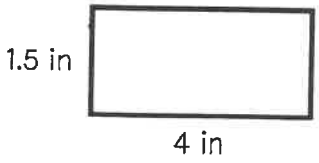
1. Camden is on a charter bus that has traveled 111 miles in $2\frac{1}{2}$ hours. At this rate, how many miles will the bus travel in the next $\frac{1}{2}$ hour?

2. Lorenzo needs to run $13\frac{1}{2}$ miles this week to meet his goal for his training plan. So far this week he has run $3\frac{1}{2}$ miles on Monday and $4\frac{1}{4}$ miles on Tuesday. How many more miles does he need to run this week in order to meet his goal?

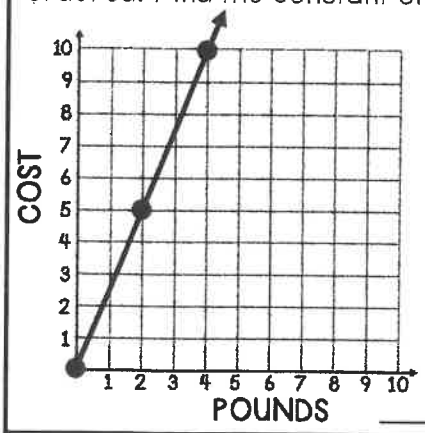
3. Use the distributive property to simplify the expression below.

$$5(a - 6)$$

4. The dimensions of the rectangle shown will be enlarged by a scale factor of 2. Find the area of the new rectangle.



5. The graph below shows the cost of apples at a farmers market based on the number of pounds ordered. Find the constant of proportionality.



6. Determine if each of the following three side lengths could be joined together to create a triangle.

_____ a. 4 cm, 2 cm, 7 cm

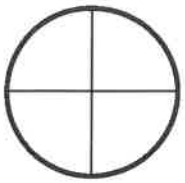
_____ b. 8 cm, 10 cm, 1 cm

_____ c. 12 cm, 12 cm, 10 cm

7. Ollie bought a sports drink for $2.25 and several granola bars that were each $1.50. Ollie paid with a $20 bill and received change. Write an inequality that can be used to find g, the number of granola bars that Ollie purchased.

Solve the problems below, and be sure to show all work. Use 3.14 for pi when necessary.

8. A room in the lower level of a cruise ship has a circular window with a diameter of 30 inches. Find the total area of the window.



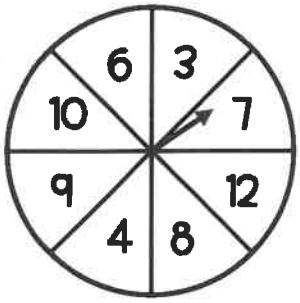
_____

9. Convert the following fraction to a decimal. Then state whether it is terminating or repeating.

$$\frac{2}{9}$$

_____

10. Jack is going to spin the spinner shown twice. What is the probability that he will spin an even number on the first spin and an odd number on the second spin?



_____

11. Kiera's middle school is conducting a survey to determine the winter dance theme. List which question best describes a random sample. Explain.

I. All of the students in Mrs. Jackson's class are surveyed

II. Fifty student's names from each grade are drawn from a hat

_____

12. The owner of a furniture store decides to reduce the price of a sofa from $800 to $560. By what percentage was the price of the sofa reduced?

_____

13. Mr. Miller is comparing his 1st period test scores with his 2nd period test scores. The mean absolute deviation for each class period is shown:

1st Period: M.A.D. = 4.4
2nd Period: M.A.D. = 9.5

What can Mr. Miller conclude about his 2nd period test scores compared to his 1st period?

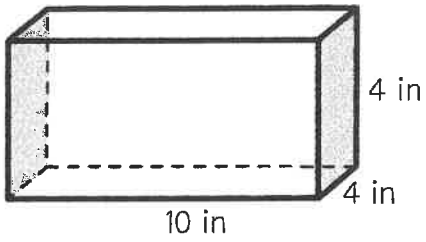
_____

14. Sheena is stocking a shelf with bags of flour that weigh $5\frac{1}{4}$ pounds each. If Sheena stocks the shelf with 13 bags of flour, find the combined weight of the 13 bags.

_____

Solve the problems below, and be sure to show all work. Use 3.14 for pi when necessary.

15. A company has designed its new packaging for a product to be shaped like the prism shown. If the cost of packaging is $0.03 per square inch, find the total cost of the package shown.



16. Daria is purchasing a $75 appliance for her kitchen. She has three coupons to the store that she can choose from:

Coupon 1: $10 off purchase

Coupon 2: 15% off purchase

Coupon 3: $\frac{1}{5}$ off purchase

Which coupon offers the best sale price, and what is the sale price?

17. Mikey has a bag that contains 8 green jellybeans, 7 red jellybeans and 2 yellow jellybeans. Describe the likelihood that Mikey will reach in without looking and select a yellow jellybean as impossible, unlikely, likely or certain.

18. Four friends each bought a movie ticket and two boxes of candy at the movie theater. The tickets were $7.50 and each of the boxes of candy cost the same amount. If the total cost for all four friends was $58, what was the price of one box of candy?

19. Caroline keeps a cabinet of candle votives in her dining room. The scents and the number that she has of each are shown in the table. If Caroline randomly chooses a candle, find the theoretical probability that she will choose lavender.

SCENT	NUMBER
Vanilla	4
Fresh Linen	7
Lavender	3
Spiced Pumpkin	1

20. Does the table below demonstrate a proportional relationship between x and y? Explain.

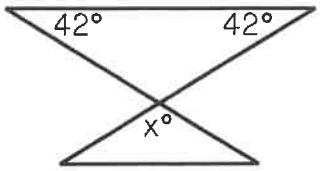
x	y
-1	7
-3	17
-5	27
-7	37

21. Solve:

$$-9.75 \div 1.3$$

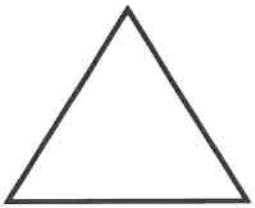
Solve the problems below, and be sure to show all work. Use 3.14 for pi when necessary.

22. Find the measure of angle x.



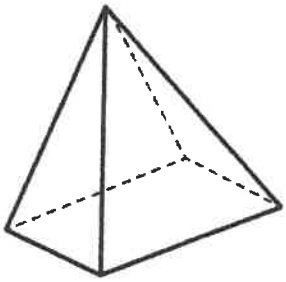
23. Of the first 25 fans who entered a baseball game, 9 were wearing hats. If a total of 300 fans are at the game, how many would you expect to not be wearing baseball hats?

24. Write a simplified expression to represent the perimeter of the equilateral triangle:

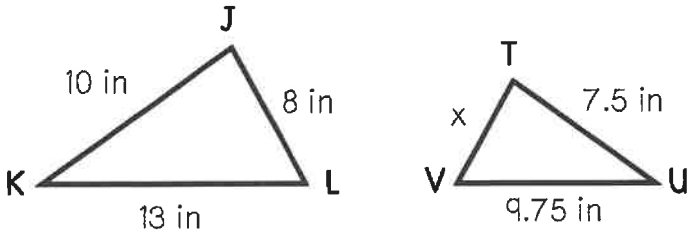


$1.5x + 5$

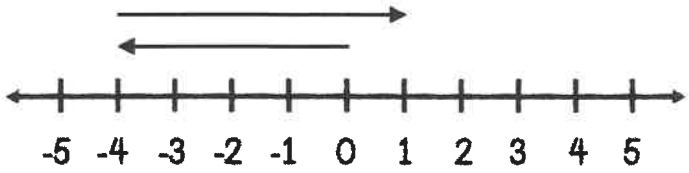
25. A square pyramid is cut with a plane that is parallel to the base of the pyramid. What shape will the resulting cross section be?



26. Triangle JKL is similar to triangle TUV. Find the missing side length of triangle TUV.



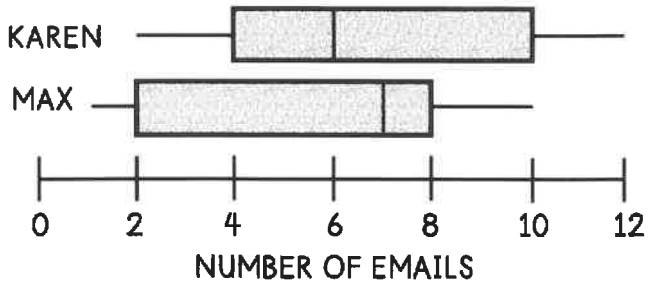
27. Write an addition statement that could be represented by the number line below.



28. Find the value of x needed to make the equation true.

$$\frac{1}{3}(30x - 12) = 36$$

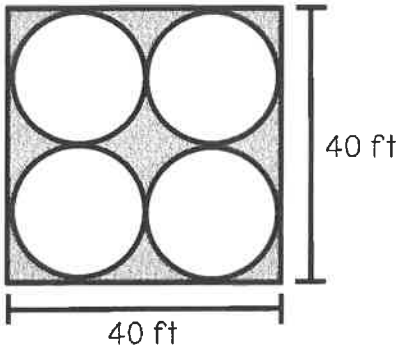
29. Karen and Max tracked the number of emails that they received each day over the last month. Who had the greater median value?



Solve the problems below, and be sure to show all work. Use 3.14 for pi when necessary.

30. Joanna is making a recipe that uses $1\frac{1}{2}$ teaspoons of salt for every 2 cups of sugar. If Joanna increases the recipe to use 5 cups of sugar, how many teaspoons of salt will she need?

31. A square field has four sprinklers that spray in the areas represented by the circles below. If the shaded portion represents area that is not reached by the sprinklers, find the total area that is not reached by the sprinklers.



32. A package of chocolates contains 3 caramel-filled pieces, 3 raspberry-filled pieces and 4 fudge-filled pieces. What is the probability that someone will reach in and select a caramel-filled piece, keep it, and then select a raspberry-filled piece?

33. Zara filled up her car with 15 gallons of gas. If Zara paid $33.00, what was the price per gallon of gas?

34. The data from two random samples where 500 students were asked about their favorite Olympic sport is shown. What percentage of students chose snowboarding as their favorite sport?

SPORT	Figure Skating	Speed Skating	Snowboarding	Ski Jumping
# STUDENTS	180	135	105	80

35. Find the constant of proportionality in the table.

x	y
15	45
20	60
40	120
45	135

Solve the problems below, and be sure to show all work. Use 3.14 for pi when necessary.

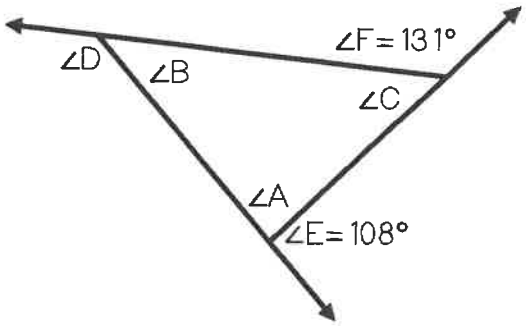
36. A triangle has an area of 24 in^2. If the height of the triangle is 4 inches, find the base of the triangle.

37. A bag has red, green and blue marbles. The probability of selecting a red marble is $\frac{1}{3}$ and the probability of selecting a green marble is $\frac{2}{5}$. Find the probability of selecting a blue marble.

38. Tina went to a donut shop and bought two glazed donuts, three iced donuts and one filled donut for her family. If sales tax for her order was \$0.43 and Tina paid with a \$10 bill, how much change did she receive?

ITEM	PRICE
Glazed Donut	\$0.79
Iced Donut	\$0.90
Filled Donut	\$1.09

39. Find the measure of ∠D.



40. Kellen bought a souvenir cup at the zoo for \$7.50. Any time Kellen brings the cup back to the zoo, he can purchase fountain drinks for \$0.75 each. If Kellen has spent \$12.75 so far, including the original purchase of the cup, how many fountain drinks has he purchased?