Rising Math 7 Honors Summer Math Packet

Instructor: Shannon Smith

STUDENT NAME:

Instructions: Use the summer to work through the 50 questions in this packet. Show all of your work for full credit. These problems do not require a calculator to solve. Answers will be reviewed the first week of the new school year. The recommended completion time is before school starts in August.

1. Evaluate $64 - 5 \times 6$.

2. Evaluate the following.

$$4 + 2 \times 7 - 15 \div 3$$

3. Evaluate the following expression.

$$8 \times \left[(16 + 11) \div 3 - 5 \right]$$

4. Evaluate.

$$6 + 7 \cdot 3^2$$

5. Write all the factors of 27.
Use commas to separate them.

6. Put a check by all the prime numbers.

☐	2
☐	8
☐	10
☐	13
☐	21
☐	24
☐	None of the above

7. Write the ratio as a fraction in simplest form, with whole numbers in the numerator and denominator.

40 cm to 72 cm

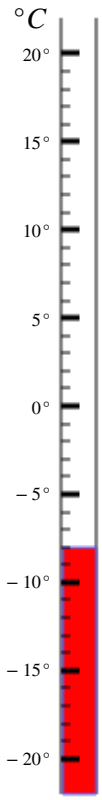
8. Fill in the blanks below with the correct units.

a. Rafael's computer has a mass of 7 ____.
(grams, kilograms)

b. Charlie went skiing on a mountain that is about 3 ____ high.
(millimeters, centimeters, meters, kilometers)

c. Heather squeezed an orange and got about 70 ____ of juice.
(milliliters, liters)

9. What temperature does the thermometer show?



10. Solve for y.

$$\frac{y}{12} = \frac{3}{9}$$

Simplify your answer as much as possible.

11. Fill in the blanks below with the correct units.

a. Today, Salma drank a total of 6 ____ of water.
(cups, gallons)

b. Chang's finger is about 2 ____ long.
(inches, feet, yards, miles)

c. A metal fork weighs about 2 ____.
(ounces, pounds, tons)

12. Find the reciprocals of the numbers below.

The reciprocal of 10 is $\square$.

The reciprocal of $\frac{12}{7}$ is $\square$.

13. Divide. Write your answer in simplest form.

$$\frac{5}{3} \div 3$$

14. Divide. Write your answer in simplest form.

$$\frac{7}{15} \div \frac{3}{10}$$

15. Multiply.

$$2\frac{1}{2} \times 1\frac{2}{3}$$

Answer with a mixed number in simplest form.

16. Multiply.

$$2\frac{1}{5} \times 4\frac{4}{9}$$

Answer with a mixed number in simplest form.

17. Multiply.

$$1\frac{3}{5} \times 3$$

Answer with a mixed number in simplest form.

18. Multiply.

$$3\frac{5}{6} \times 4$$

Answer with a mixed number in simplest form.

19. Divide. Write your answer as a fraction or mixed number in simplest form.

$$9\frac{1}{6} \div 5$$

20. Divide. Write your answer as a fraction or a mixed number in simplest form.

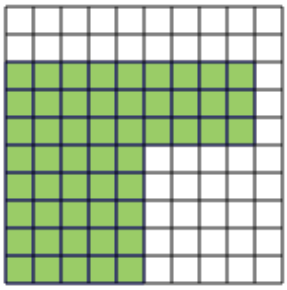
$$9\frac{3}{4} \div 4\frac{1}{2}$$

21. Write $\frac{47}{100}$ as a percentage.

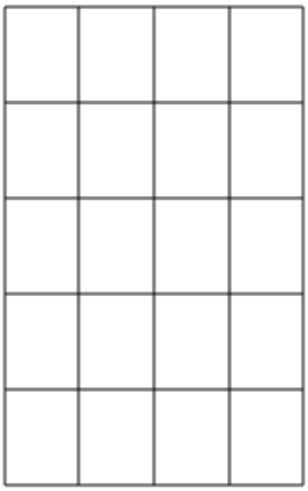
22. Write 9% as a fraction. There is no need to simplify your answer.

23. The figure below is divided into 100 squares of equal size.

What percent of the figure is shaded?



24. The figure below is cut into 20 equal parts.
Shade $85\ \%$ of the figure.



25. For each value of u, determine whether it is a solution to $41 = 29 + u$.

u	Is it a solution?	
	Yes	No
15	○	○
12	○	○
9	○	○
70	○	○

26. For each value of x, determine whether it is a solution to $9 = x \div 4$.

x	Is it a solution?	
	Yes	No
24	○	○
48	○	○
44	○	○
36	○	○

27. Solve for u.

$$u - 3 = 8$$

28. Solve for v.

$$3v = 39$$

Simplify your answer as much as possible.

29.

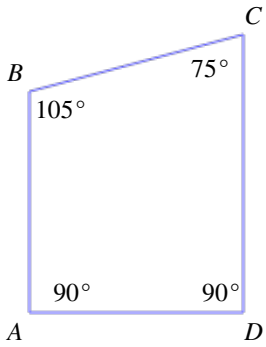
True or False?

Equations have an equal sign, but expressions do not.	○ True ○ False

Expression or equation?

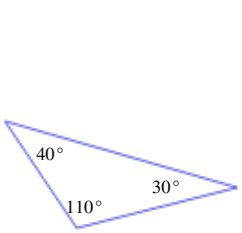
$30 \div 5 + 16$	○ Expression ○ Equation
$9x - 19$	○ Expression ○ Equation
$6 - 13 = -7$	○ Expression ○ Equation

30. Classify the four angles of the quadrilateral.

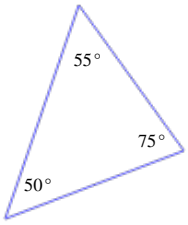


	Right	Acute	Obtuse
$\angle A$	○	○	○
$\angle B$	○	○	○
$\angle C$	○	○	○
$\angle D$	○	○	○

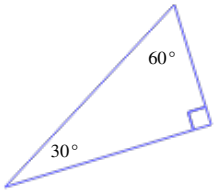
31. Are the triangles below acute, obtuse, or right?



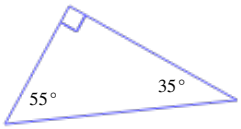
Triangle A



Triangle B



Triangle C

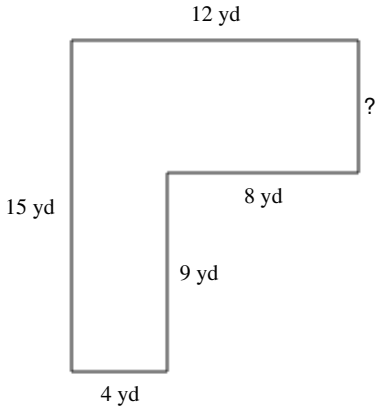


Triangle D

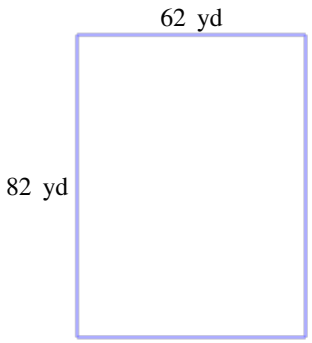
	Acute	Obtuse	Right
Triangle A	○	○	○
Triangle B	○	○	○
Triangle C	○	○	○
Triangle D	○	○	○

32. Find the missing side length.

Assume that all intersecting sides meet at right angles.
Be sure to include the correct unit in your answer.



33. The figure below shows a rectangular parking lot.



(a) Use the calculator to find the perimeter and area of the parking lot.
Make sure to include the correct units.

Perimeter:
Area:

(b) The lot will be paved.
Which measure would be used in finding the amount of pavement needed?

- Perimeter
- Area

(c) A chain will surround the lot.
Which measure would be used in finding the amount of chain needed?

- Perimeter
- Area

34. Alan asked his classmates to choose their favorite flavor.
He ended up with the tally table below.

How many students chose grape?

Flavor	Tally
Vanilla	𝍸
Grape	𝍸 𝍸
Chocolate	𝍸 III
Cherry	𝍸 𝍸 𝍸
Strawberry	I

35. Here are the shopping times (in minutes) of ten shoppers at a local grocery store.
Complete the grouped frequency distribution for the data.
In the distribution, the frequency of a class is the number of shopping times in that class.
(Note that we are using a class width of 5.)

Shopping time (in minutes)				
29	33	18	29	37
22	21	29	19	26

Shopping time (in minutes)	Frequency
18 to 22	_____
23 to 27	_____
28 to 32	_____
33 to 37	_____

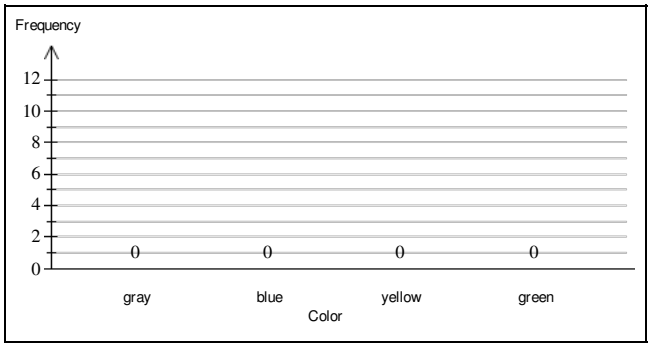
36. A new model of shirt at the clothing store comes in 4 colors:

gray, blue, yellow, and green.

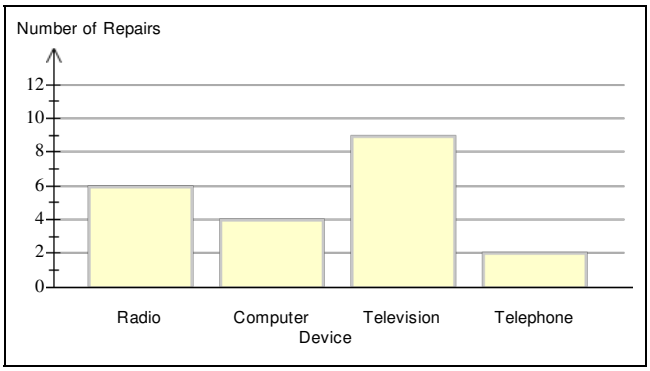
There were 16 shirts sold this week. Here they are by color:

yellow, yellow, yellow, gray, yellow, blue, green, yellow, blue, green, yellow, yellow, blue, yellow, yellow, yellow

Draw the bar graph for these data.



37. A shop repairs 4 types of electronic devices. The number of repairs of each device last week is shown in the bar graph below. Use this bar graph to answer the questions.

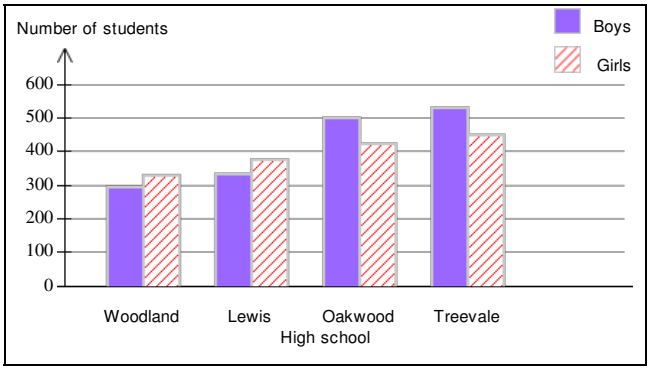


(a) Which device was repaired the least often? How many repairs were made on that device?

(b) How many more repairs were made on televisions than radios?

(c) How many devices had more than 6 repairs?

38. There are four high schools in the West School District. The double bar graph below shows how many boys and girls are at each school. Use this graph to answer the questions.

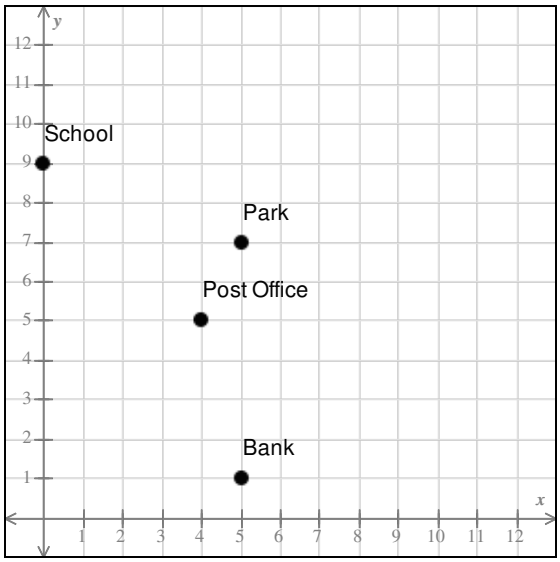


(a) Estimate the number of girls at Lewis.

(b) Which schools have more boys than girls?

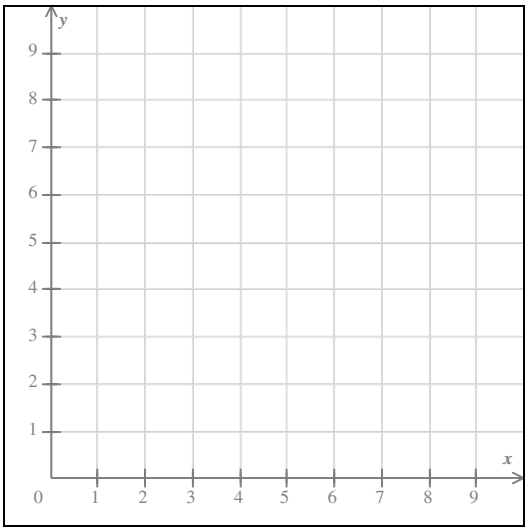
(c) Which school has the most students total?

39. Write an ordered pair for the location of the Bank.



$(x, y) = (\square, \square)$

40. Using the pencil, plot the point $(6, 5)$.



41. Order these numbers from least to greatest.

821,235 99,668 3,601 74,936

42. Round 612 to the nearest ten.

43. Round $8{,}707$ to the nearest hundred.

44. Round $214{,}743$ to the nearest thousand.

45. Rewrite $4 \times 4 \times 4$ using an exponent.

46. Use $<$, $>$, or $=$ to compare the following numbers.

$-2 \square -12$

$-5 \square -8$

$-4 \square 12$

47. First plot 8 and -11 on the number line below.
Then answer the questions.

- Choose the correct statement.
  __ 8 is located to the left of -11.
  __ 8 is located to the right of -11.

- Use $<$, $>$, or $=$ to complete the statement.

  $8 \_\_\_ -11$

48. Evaluate the following.

$|-7| = \square$

$|9| = \square$

49. Subtract.

$1 - 6 = \square$

$-5 - 10 = \square$

50. Subtract.

$-6 - (-4) = \square$

$4 - (-8) = \square$