Honors 5th to 6th

Name _____ Date _____

BEGINNING-OF-YEAR TEST

Give the best answer for each question.

1. The table shows how many hours Juan and Alex worked each day last week.

	HOURS WORKED				
Juan	5	6	7	8	9
Alex	2	3	4	5	6

Select the correct statement.

- ○ Each day, Juan worked 3 more hours than Alex.
- ○ Each day, Alex worked 2 fewer hours than Juan.
- ○ Each day, Juan worked 2 times as many hours as Alex.
- ○ Each day, Alex worked $\frac{2}{3}$ as many hours as Juan.

2. Add. Write the answer as a mixed number in simplest form.

$$\frac{3}{4} =$$
$$+\frac{3}{5} =$$
$$\underline{\quad\quad}$$

3. Subtract using the model. Write the answer in simplest form.

$\frac{3}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | | | |

$-\frac{1}{4}$ | $\frac{1}{4}$ | ? | | | ?

4. Kaylee puts 32 tubes of paint into an organizer. Each section of the organizer holds 5 tubes of paint.

Which bar model correctly represents the fraction $\frac{32}{5}$ as a quotient and remainder for this situation?

○

TOTAL TUBES OF PAINT: 32						
5	5	5	5	5	5	2

○

TOTAL TUBES OF PAINT: 32					
5	5	5	5	5	7

○

TOTAL TUBES OF PAINT: 32						
6	6	6	6	6	6	3

○

TOTAL TUBES OF PAINT: 32					
6	6	6	6	6	2

5. Find the product.

$$\frac{3}{4} \times \frac{1}{5} = \underline{\quad\quad}$$

6. Find the value of n.

$$\frac{1}{4} + \frac{3}{5} = n$$

$n =$ _____

7. Which multiplication expressions are equivalent to this division problem? Select **all** that apply.

$2 \div \frac{1}{7} = ?$

- ○ $2 \times \frac{1}{7}$
- ○ $7 \times \frac{1}{2}$
- ○ $2 \times \frac{7}{1}$
- ○ $7 \times \frac{2}{1}$
- ○ 2×7

8. Find the quotient.

$8\overline{)5,224}$

9. Which expression represents the problem?

Add 16 to 6, and then divide by 2.

- ○ $2 \div 6 + 16$
- ○ $2 \div (6 + 16)$
- ○ $(6 + 16) \div 2$
- ○ $6 + 16 \div 2$

10. Which expressions are equivalent to 5? Select **all** that apply.

- ○ $24 \div [(7 + 9) \div 2] + 2$
- ○ $(3 \times 6) \div 2 - 5$
- ○ $(20 \div 4 + 2) \times [(33 - 8) \div 5] \div 7$
- ○ $14 - 2 \times 5 \div 2 + 4 - 8$
- ○ $12 \times 4 - 3 \div 3 + 1$

11. During May, a baker sells 192 cakes for $18 each. Use rounding to estimate the total amount of money the baker makes from cakes in May. Then find the actual amount. Show your work.

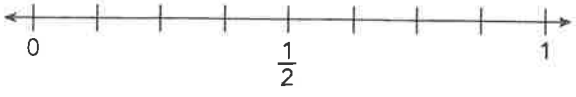
Estimate: _____

Actual: _____

12. Carolyn measured the lengths in inches of 10 different insects. Use her data to complete the line plot.

$\frac{3}{8}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{7}{8}$ $\frac{3}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{3}{4}$

Insect Lengths



Length (inches)

13. Luisa has $55 in $5 bills. How many bills does she have?

_____ bills

14. Complete the equation.

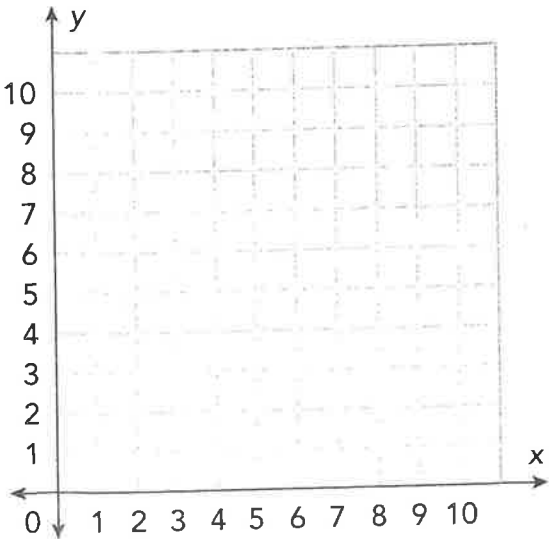
$352{,}004{,}600 \div 10^2 =$ _____

15. Marcia uses $\frac{1}{3}$ yard of yarn to make a decorative tassel. The tassel has 8 pieces of yarn of equal length. What is the length of each piece of yarn?

_____ yd

16. Use the grid to plot the following points. Then connect them to form a polygon.

$Q(1, 1)$, $R(5, 1)$, $S(5, 9)$, $T(1, 9)$



17. Evaluate $0.82 - n$ when $n = 0.35$.

_____

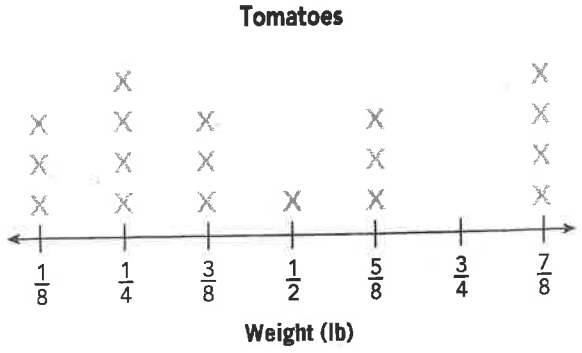
18. Divide.

$0.85 \div 5 =$ _____

19. Ella has a 21.75-pound bag of cat food. Her cats eat 0.75 pound of food every day. How many days' worth of food does she have for her cats?

_____ days

20. Look at the line plot. Complete the sentence.



There are _____ tomatoes in all, and _____ of them weigh at least $\frac{1}{2}$ pound.

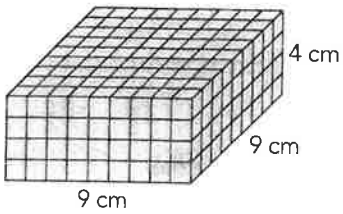
21. Jim multiplies two fractions that are both greater than zero. Which of these statements is **always** true?

- ○ If one factor is $\frac{2}{3}$, the product is less than 1.
- ○ If one factor is $\frac{2}{3}$, the product is less than or equal to 1.
- ○ If one factor is $\frac{2}{3}$, the product is less than the other factor.
- ○ If one factor is $\frac{2}{3}$, the product is less than $\frac{2}{3}$.

22. Which ordered pair could be the coordinates for a vertex of a rectangle when the other three vertices are located at (2, 1), (2, 6), and (5, 6)?

- ○ (5, 2)
- ○ (5, 1)
- ○ (2, 5)
- ○ (1, 5)

23. Each cube that makes up the rectangular prism has a volume of 1 cubic centimeter.



What is the volume of the rectangular prism?

_____ cm^3

24. Crystal has 6 cartons of eggs. Each carton has 12 eggs. She has another 5 eggs in her fridge, but she uses 2 of them for a recipe. Which expression represents the problem?

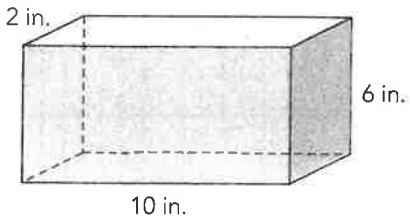
- ○ $(12 \times 6) - 5 + 2$
- ○ $(12 \times 6) + 5 - 2$
- ○ $(12 \div 6) - 5 + 2$
- ○ $(12 \div 6) + 5 - 2$

25. Which of the following is equivalent to the product?

$232{,}000 \times 10^3$

- ○ 2,320,000,000
- ○ 232,000,000
- ○ 23,200,000
- ○ 2,320,000

26. Use the formula to find the volume of the rectangular prism.



$V = \ell \times w \times h$

$V =$ _____ $in.^3$

27. Bill runs 9.65 kilometers in one hour. At this rate, how far can he run in 2.5 hours?

- ○ 33.775 km
- ○ 24.125 km
- ○ 12.15 km
- ○ 7.15 km

28. Find the difference.

$$\begin{array}{r} \$11.26 \\ -\ \ 9.80 \\ \hline \end{array}$$

- ○ $1.46
- ○ $2.66
- ○ $3.06
- ○ $7.66

29. Complete the fractions with the numbers 1, 2, 3, 5, and 6 to make a true equation. No number may be used more than once.

$$\frac{1}{\square} + \frac{\square}{6} = 1\frac{\square}{\square}$$

30. Look at the data.

$$1 \quad \frac{3}{4} \quad 2 \quad 0 \quad 2 \quad \frac{1}{4} \quad \frac{1}{2} \quad 1 \quad 1 \quad 0 \quad \frac{1}{2} \quad \frac{1}{4}$$

To make a line plot for the data, what interval should you use?

- ○ $\frac{1}{8}$
- ○ $\frac{1}{4}$
- ○ $\frac{1}{2}$
- ○ 1

31. Which of the following are equal to 0.24? Select **all** that apply.

- ○ 0.08×3
- ○ 8×0.03
- ○ 0.8×0.3
- ○ 8×0.3
- ○ 0.08×0.03
- ○ 0.8×3

32. Match each equation with the missing power of 10.

$310 \times ? = 3{,}100{,}000$	10^1
$2{,}500 \times ? = 25{,}000$	10^2
$50{,}100 \div ? = 501$	10^3
$42{,}000 \div ? = 42$	10^4

33. Divide.

$$22\overline{)\$368.06}$$

34. Complete to show how to find 23×4.87 using partial products.

23×4.87

$= \_\_\_\_ \times 4.87 + \_\_\_\_ \times 4.87$

$= \_\_\_\_ + \_\_\_\_$

$= \_\_\_\_$

35. There are 24 rows in Mia's section at the basketball stadium with 15 seats in each row. How many seats are there altogether?

____ seats

36. Subtract.

$$\begin{array}{r} \frac{5}{7} \\ -\ \frac{1}{2} \\ \hline \end{array}$$

37. Complete the division equation.

$$\frac{\square}{\square} \div \boxed{12} = \frac{\boxed{1}}{\boxed{48}}$$

38. Fill in the multiplication problem with partial products from the list. Then find the product. * You may just multip

768 1,920 7,680 19,200

$384 \times 52 =$

____ + ____ = ____

39. A class of 22 students visits the library. Only 4 children fit at each table.

Complete the statement.

The class will need ____ tables.

They can fill ____ tables completely, plus another table for the remaining ____ students.

40. Twenty-nine friends plan a trip. They rent SUVs that can each take 8 friends.

Part A
How many SUVs are needed for the trip?

_____ SUVs

Part B
Explain how you found your answer.

41. Daniel has a pie cut into equal slices. He ate some slices yesterday, and he has $\frac{5}{8}$ of a pie left over today.

* Bonus *

Part A
Today, Daniel eats some slices of leftover pie. The amount he eats is $\frac{1}{6}$ of a whole pie. What fraction of the whole pie remains? Write your answer in simplest form.

_____ of the pie remains.

Part B
What is the least number of slices that could be in the whole pie?

_____ slices

Part C
Explain how you found the answer to Part B.

42. Maryann has $\frac{9}{16}$ gallon of water. She uses $\frac{2}{3}$ of it to water her plants. She says that she has $\frac{3}{8}$ gallon of water left.

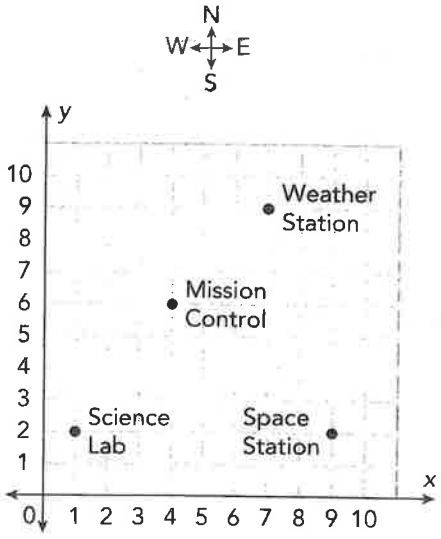
Explain Maryann's mistake, and find the correct amount of water left.

43. Find the next three numbers in the pattern.

4.7, 5.71, 6.72, 7.73, _____, _____, _____

Justify your response.

44. The coordinate graph represents exhibits students will visit. Each grid space is 1 meter.



Part A

Match each location with its coordinates.

Mission Control	(1, 2)
Science Lab	(4, 6)
Space Station	(7, 9)
Weather Station	(9, 2)

Part B

From Mission Control, Jorge walks east and then north to the Weather Station. Then he walks west and then south to the Science Lab. How many meters does he walk?

Draw 4 segments on the graph to model this situation.

Jorge walks _____ meters in all.

Part C

Explain how you found your answer in Part B.