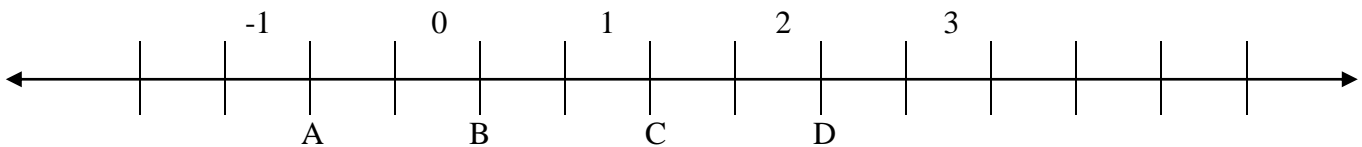**TERRA NOVA TEST**

MATHEMATICS SAMPLES
GRADE 6

1. Ms. Gretchen needs 69 fruit bars for her students at the circus. There are 8 bars in a box. How many boxes of fruit bars should Ms. Gretchen order?

2. Tony is saving to buy a CD player that costs $68.95. He won 3 CDs at the carnival. He just earned and saved $12.00 for mowing the lawn. He had already saved $43.50. How much more money does he need?

3. A dog trainer has a bag of 70 dog treats. He gives 8 treats each day. How many whole days will the treats last? How many treats can he give on the last day?

4. James went shopping one Saturday afternoon. He spent ½ of the money he had on a new stereo system. He spent half of the money he had left on a new suit. Half of what remained, he spent on a new sweater. Half of what remained, he spent on a new CD. If he went home with $15, how much money did he have to begin with?

5. There are 944 marbles in a bag. If 3 out of 8 are yellow, how many marbles are yellow?

6. A photo 5 inches wide and 7 inches long is enlarged. The new photo is 10 inches wide. What is the length of the enlarged photo?

7. Which number makes this sentence true?_____ > 258.8

a. 258.08   b. 25.80   c. 258.801   d. 25.88

8. Insert the correct symbol. $<, >, \leq, \geq$

6537.84   6538.841

9. (3 x 100,000) + (2 x 10,000) + (8 x 1,000) + (1 x 100) + (0 x 10) + (5 x 1) =

10. (5 x 10,000) + (4 x 1,000) + (6 x 100) + (8 x 10) + (0 x 1) =

11. Which letter names 0.5 on the number line:

12. Estimate the total of 3.894 and 5.2.

13. $10.02 - $6.89 =

14. 0.38 x 1,000 =

15. 0.76 ÷ 100 =

16. Test 126 for divisibility by each of the following numbers: 2, 3, 5, 10.

17. What is the least common multiple for 9 and 15?

18. At a store, hot dogs come in packages of eight and hot dog buns come in packages of twelve. What is the least number of packages of each type you can buy and have no hot dogs or buns left over?
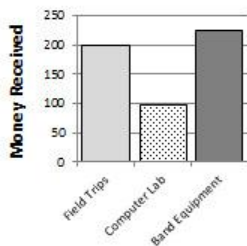
19. $2\dfrac{1}{7} \times 1\dfrac{3}{4} =$

20. $\dfrac{3}{16} \times 1\dfrac{1}{7} =$
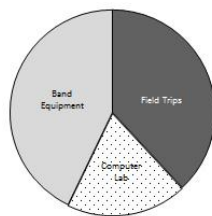
21. $9 - 3\dfrac{1}{3} =$

22. $6\dfrac{1}{8} \div 2\dfrac{1}{2} =$
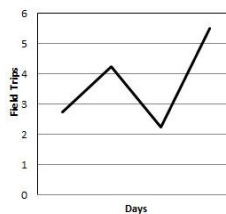
23. $23 \div \dfrac{3}{4} =$

24. Greg is designing a graph to show the fraction of the total money raised that will be spent on band equipment this year. These graphs are from past years. Which of these is the best type of graph for him to use?
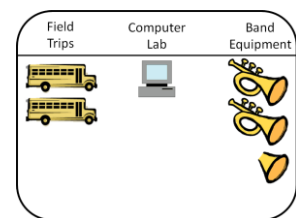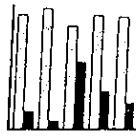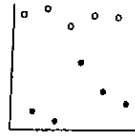

A

B

C

D

25. Which type of graph most clearly shows a comparison of the relative high and low temperatures among the cities?

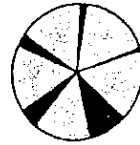26. The daily high temperatures (^{o}F) for one week are 86, 78, 92, 79, 87, 77, and 91. Find the median high temperature.

27. What is the median of the following set of scores: 100, 87, 81, 23, 19?

28. In 1787 twelve of the original thirteen states sent delegates to Philadelphia to work on forming a government for our new country. In all, 55 delegates attended. You probably know some of their names: James Madison (36 years old), Alexander Hamilton (32), George Washington (55), and Benjamin Franklin (the oldest delegate, at 81).

    What is the average age of the delegates mentioned in the passage?
    a. 32   b. 45.5   c. 51   d. 55

29. In a bag of mixed nuts, 6 of 10 nuts are pecans. Find the probability of selecting a pecan at random.

Write the next three terms for 30 and 31.

30. 1, 5, 25, 125, …

31. $2.85, $5.70, $8.55, …

32. What is the rule used to change Column a to Column b?

a	b
3	12
5	20
8	32
12	48

33. To avoid fees, you must have a minimum of $250 in your bank account. You currently have $143 in your account. Write and solve an equation to find how much money you must deposit to avoid fees.

34. To get an A on a four-part test, Dana must score a minimum of 270 points. She scored 240 points on the first 3 parts of the test. What does she need to earn on the fourth part in order to receive an A?

35. In March Mr. McNiff earned $4,542 and in April his income was $2,502.
Estimate the difference in Mr. McNiff's income from March to April.

36. A printer costs $159. A computer costs $642. You purchase both items. Estimate the amount of change you would receive if you gave the cashier $850.

37. Archeologists used coordinate systems to map the location of objects found during a dig. These maps can later be used to learn about the culture of ancient civilizations.

The fire pit marks the origin. Pottery is located at coordinates (2, 3). Which item is located at (4, -2)?
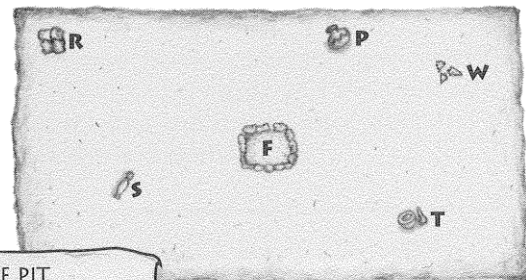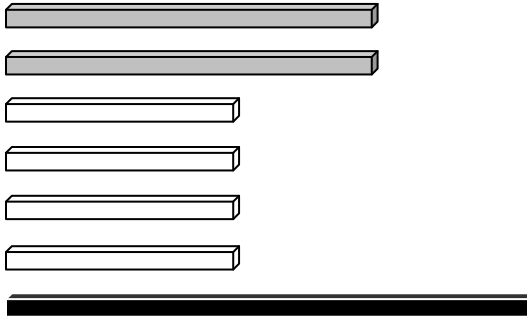
A. Rock Column

B. Statue

C. Tools

D. Weapons

38. Mary wants to make a trapezoid using some of these sticks by joining them at their ends. Which set of sticks could she use?

A. 1 gray, 1 black, and 2 white
B. 1 gray, 1 black, and 1 white
C. 2 gray and 2 white
D. 4 white

39. Use the figure at the right to answer the following:

a. name a right angle
b. name an acute angle
c. name an obtuse angle
d. name a straight angle
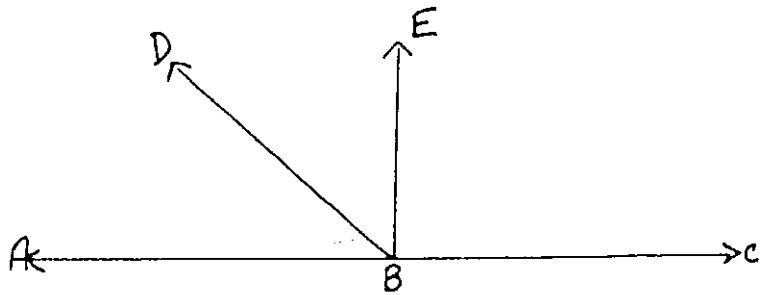
40. Use the figure at the right to answer the following:

a. name a pair of parallel lines
b. name a pair of perpendicular lines
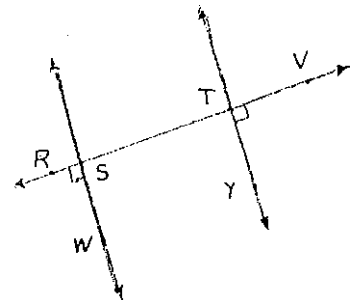
41. Are the trapezoids a and b congruent to the first trapezoid?
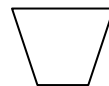
42. For each figure, tell whether it is congruent to
Trapezoid ABDC.
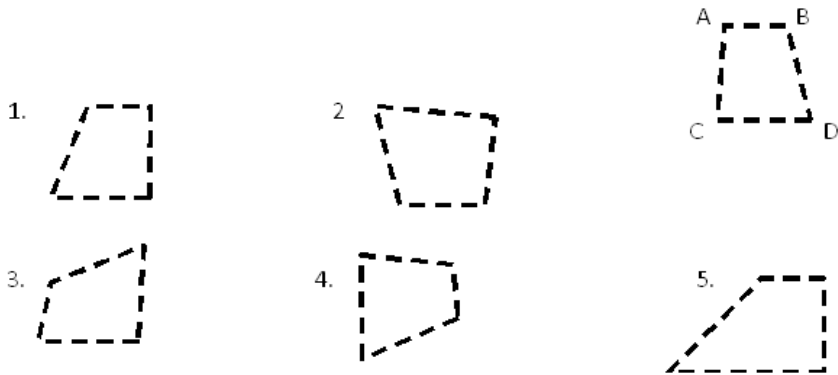
43. Is the dashed line in each figure a line of symmetry? Explain.
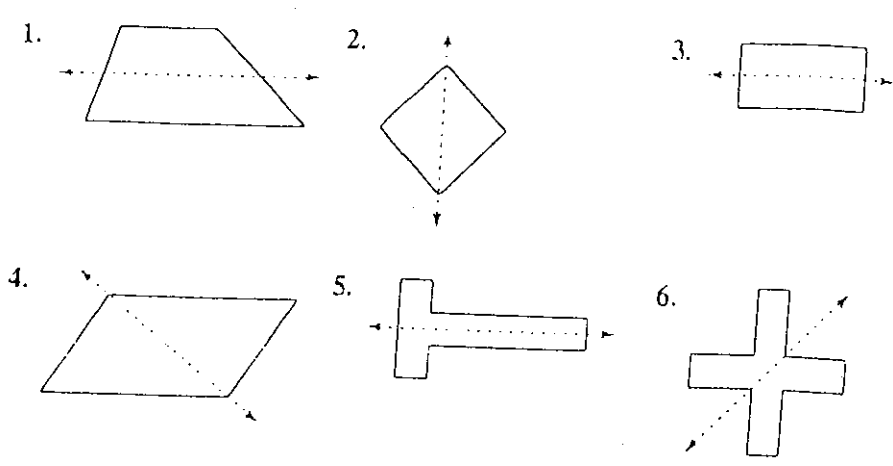
44. If you fold the figure at the right,
    What shape do you have?

14 cm

Top

6 cm

Left
side

Front

Right
side

6 cm

Bottom

4 cm

Back

4 cm
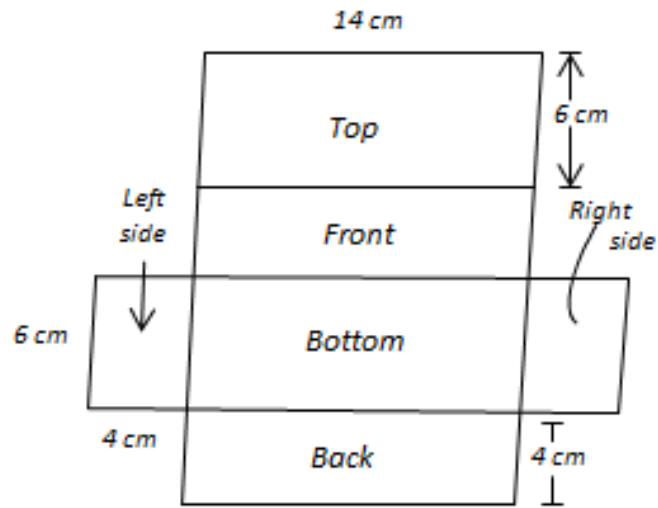
45. Circle the figure below (B, C, or D) that shows figure A rotated 270 degrees clockwise.

A

B

C

D
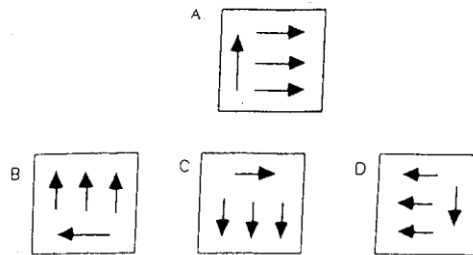
46. You are reading a booklet of information about your new refrigerator. Would you expect
    the height of your refrigerator to be given in: kilometers, millimeters, meters, or
    centimeters?

47. a. Name the vertical streets on the map that are parallel. _____ _____
    b. Use the cm side of your ruler to find the distance between points C and D if
        one cm = 2 miles. _____

Travis Street

Flagler Street

● A   Long Street   Anderson Hill Road   Brookline Avenue   ●D

Holland Blvd.   ● B   Merrill Street   NE 3rd Street

                                                                        NE 2n^{d} Street

● C   Washington Street
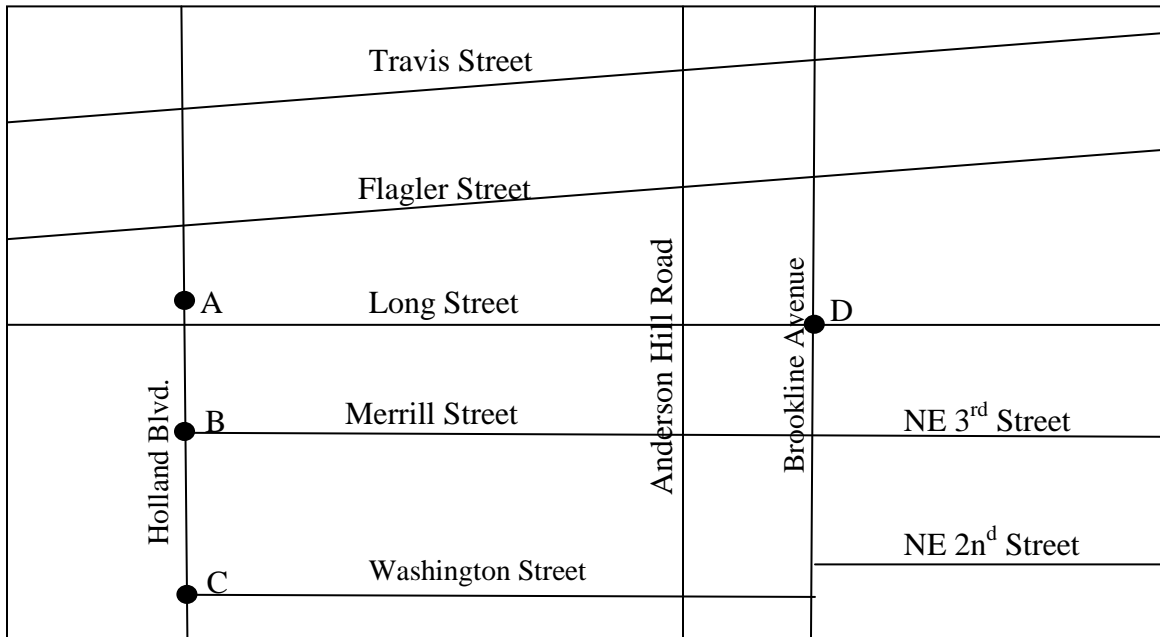
48. Estimate the area of this figure.

1 dm^2 ➤
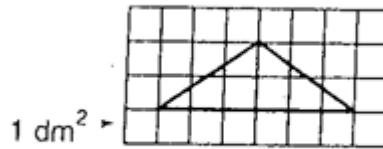
49. Which of these is not a factor of 93?

        A   1

        B   2

        C   3

        D   31

        E   None of these

50. John has 15 race cars. He gives $\frac{2}{3}$ of the cars to Goodwill. How many cars does he keep?

    A   4

    B   5

    C   8

    D   10

    E   None of these

51. Alice and Malia have counted their coins that they have collected for 9 months. Alice counted $11.59. Malia counted $13.54. What is the difference between their coin amounts?

    A $1.90

    B $2.10

    C $1.95

    D $2.05

    E   None of these

52. Mr. Walker is preparing his backyard for gardening. He plans to use $\frac{1}{4}$ of the garden for vegetables, $\frac{2}{3}$ of the garden for flowers and $\frac{1}{5}$ of the garden for herbs. Which of these should Mr. Walker use as the least common denominator when he begins to section his yard?

    A   36

    B   48

    C   60

    D   30

    E   None of the above

53. Ellen was required to swim $2\frac{1}{2}$ laps in the pool. She finished $1\frac{1}{3}$ within 3 minutes. How many more laps does she need to complete the required amount?

    A $3\frac{2}{5}$

    B $1\frac{1}{2}$

    C $1\frac{1}{6}$

    D $1\frac{1}{3}$

    E   None of the above

54. Each day Jane walks, she walks 18 blocks. In a 5 week period Jane walks 32 days. What is the most reasonable estimate of the number of blocks Jane walks in 5 weeks?

      A   300 blocks

      B   600 blocks

      C   3000 blocks

      D   6000 blocks

      E   None of the above

55. Look at the fractions below.

$$\frac{1}{2} \qquad \frac{2}{7} \qquad \frac{1}{4} \qquad \frac{5}{8}$$

What is the order of these fractions, from least to greatest?

A $\dfrac{1}{2} \qquad \dfrac{2}{7} \qquad \dfrac{1}{4} \qquad \dfrac{5}{8}$

B $\dfrac{2}{7} \qquad \dfrac{1}{2} \qquad \dfrac{1}{4} \qquad \dfrac{5}{8}$

C $\dfrac{1}{4} \qquad \dfrac{1}{2} \qquad \dfrac{5}{8} \qquad \dfrac{2}{7}$

D $\dfrac{1}{4} \qquad \dfrac{2}{7} \qquad \dfrac{1}{2} \qquad \dfrac{5}{8}$

E $\dfrac{1}{2} \qquad \dfrac{1}{4} \qquad \dfrac{2}{7} \qquad \dfrac{5}{8}$

56. Look at the expression below.

   10 - (8 + 4)

   Which of these is another way to write the expression?

   A $8 - (10 + 4)$

   B $10 - (4 + 8)$

   C $(8 + 4) - 10$

   D   4 + (8 - 10)

   E   None of the above

57. Solve the following expression.

   $24 - 9 \times 2 =$

   A   54

   B   30

   C   32

   D   36

   E   None of the above

58. Read the problem in the box and think about how you would solve it.

> David decided to distribute his collection of 364 baseball cards among his 9 friends. How many cards would each receive?
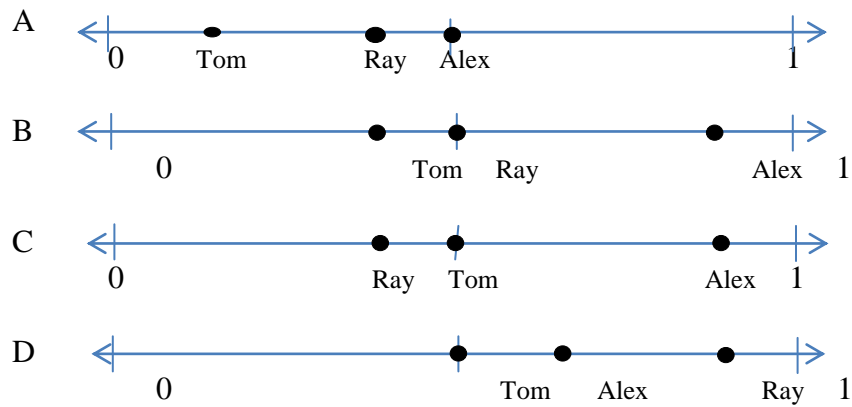
Which of these problems would be solved in the same manner?

A   Jose did yard work for his neighbor charging $7.00 per hour. He completed the job in 3 hours. How much money did Jose earn?

B   Amanda is required to read a book that is 350 pages. She has 7 days to complete reading the book. How many pages must she read each day?

C   Mike runs 3 miles each day. How many miles does he run in a full week?

D   Sparky is rewarded with 3 treats each time he retrieves a ball. If he retrieves 14 balls, how many treats does her earn?

59. Three boys are given 12 problems to solve. The table provided captures the portion of problems they have solved thus far.

Boys	Portions of Problems Solved
Tom	$\dfrac{1}{2}$
Ray	$\dfrac{3}{8}$
Alex	$\dfrac{5}{6}$

Which number line correctly shows the portion of problems each boy has solved thus far?

A

    0   Tom   Ray Alex   1

B

    0   Tom   Ray   Alex   1

C

    0   Ray   Tom   Alex   1

D

    0   Tom   Alex   Ray   1

60. After solving 18 of the 54 items of the math test, Harold concluded that he had completed $\frac{18}{54}$ of the test. Which of these fractions is another way to write the fraction of the test that Harold has completed?

A $\frac{1}{2}$

B $\frac{1}{3}$

C $\frac{4}{5}$

D $\frac{5}{6}$

E None of the above