

SEBHS 5th and 6th Grade Math Tournament 2002

1. Find the missing terms in the pattern below.

4, 7, 12, 19, 28, 39, _____, 67, 84, _____, 124

[A] 53, 104 [B] 53, 103 [C] 52, 104 [D] 52, 103

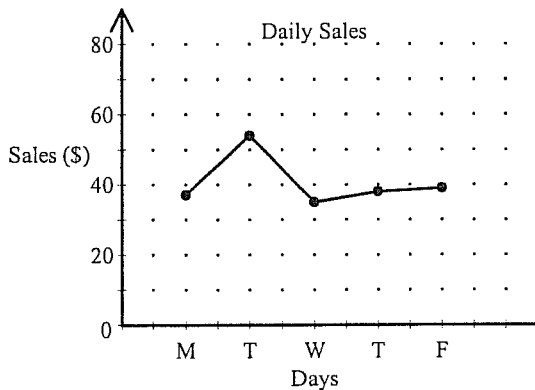
2. Twin primes are successive prime numbers that differ by 2. How many pairs of twin primes are there between 12 and 36?

[A] 1 [B] 2 [C] 4 [D] 3

3. You have four kinds of sandwich meat and three types of bread. How many different sandwiches can you possibly make?

[A] 24 [B] 7 [C] 16 [D] 12

4. The broken-line graph shows sales proceeds from the school bake sale over 5 days.



Approximately how much higher were the highest sales than the lowest sales?

[A] \$35.00 [B] \$19.00 [C] \$1.90 [D] \$54.00

5. Solve: $16 = m - 3$ [A] 19 [B] 13 [C] 48 [D] 18

6. Write an equation from the following statement, and then solve the equation.
When a number is increased by 24, the result is 49.

[A] $x + 24 = 49$ [B] $x - 49 = 24$ [C] $x + 49 = 24$ [D] $x - 24 = 49$
 $x = 25$ $x = 73$ $x = 25$ $x = 73$

7. Before any taxes were added, a new car had a sticker price of \$35,540.57. This included the base price, plus \$4442.00 worth of options and \$610.00 for the dealer to prepare the car. What was the base price of the car?

[A] \$31,708.57 [B] \$40,592.57 [C] \$30,488.57 [D] \$5052.00

8. Write 6783 in expanded notation.

[A] $(6 \times 10000) + (7 \times 1000) + (3 \times 100) + (8 \times 10)$

[B] $(6 \times 1000) + (7 \times 100) + (8 \times 10) + 3$

[C] $(6 \times 10000) + (7 \times 1000) + (8 \times 100) + (3 \times 10)$

[D] $(6 \times 1000) + (7 \times 100) + (3 \times 10) + (8 \times 10)$

9. Simplify: $25 \div 5 \cdot 5 + 6 - 3$ [A] 3 [B] 8 [C] 28 [D] 4

10. Evaluate $(2a \times 3 + 2) - 3b$ if $a = 6$ and $b = 5$. [A] 23 [B] 315 [C] 93 [D] 314

11. Estimate the length of this line segment. _____

[A] 90 mm

[B] 18 cm

[C] 70 cm

[D] 9 mm

12. Convert 826 centimeters to meters. [A] 8260 m [B] 82,600 m [C] 8.26 m [D] 0.826 m

13. Write 0.03 as a percent. [A] 3% [B] $\frac{3}{100}\%$ [C] 0.0003% [D] 0.03%

14. Which of the following numbers is greater than 5.89?

[A] 1.5900

[B] 5.8890

[C] 0.5910

[D] 5.8920

15. Which shows order of decimals from least to greatest?

[A] 7.05, 5.07, 0.57, 5.71, 1.75

[B] 0.57, 1.75, 5.07, 5.71, 7.05

[C] 1.75, 7.05, 5.07, 0.57, 5.71

[D] 0.57, 1.75, 5.07, 7.05, 5.71

16. Round 0.254826 to the hundredths place. [A] 0.25 [B] 0.255 [C] 0.256 [D] 0.24

17. Evaluate the power. 5^3 [A] 8 [B] 15 [C] 250 [D] 125

18. Evaluate $(x+3)^2 - 4$ when $x = 5$. [A] 60 [B] 30 [C] 16 [D] 64

19. Mr. Bien earns 6% commission on every piece of furniture he sells. If he sells a chair for \$200, how much will Mr. Bien earn in commission?

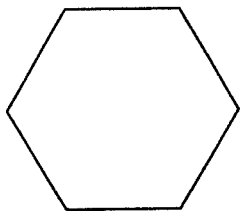
[A] \$20

[B] \$6

[C] \$206

[D] \$12

30. Identify the polygon.



[A] octagon

[B] pentagon

[C] quadrilateral

[D] hexagon

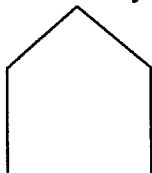
31. How many lines of symmetry does the figure have?

[A] 3

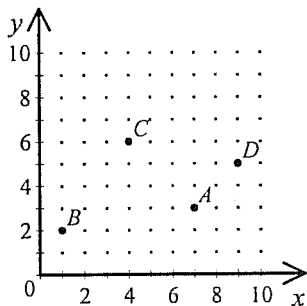
[B] 2

[C] 1

[D] 0



32. State the coordinates of each point.



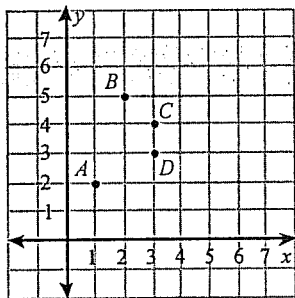
[A] $A(3, 7), B(2, 1), C(6, 4), D(5, 9)$

[B] $A(7, 3), B(1, 2), C(4, 6), D(9, 5)$

[C] $A(4, 6), B(2, 1), C(9, 5), D(3, 7)$

[D] $A(9, 5), B(4, 6), C(1, 2), D(7, 3)$

33. Use the figure below.



Imagine that figure $ABCD$ is slid 1 unit to the right and 2 units up to form figure $EFGH$. Name the location of point G .

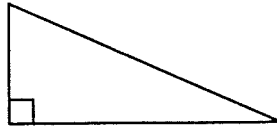
[A] $(3, 5)$

[B] $(3, 6)$

[C] $(4, 6)$

[D] $(4, 5)$

34. How can the triangle be classified?

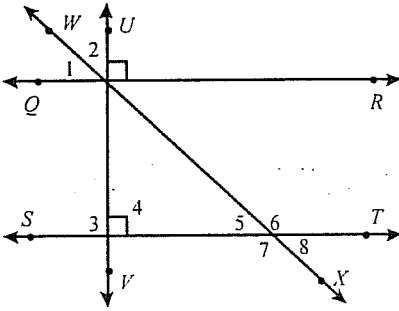


- [A] obtuse scalene [B] right scalene [C] right isosceles [D] obtuse isosceles

35. In triangle XYZ , the measure of $\angle X = 67^\circ$ and the measure of $\angle Z = 37^\circ$. Find the measure of $\angle Y$.

- [A] 127° [B] 104° [C] 76° [D] 157°

36. Use the figure below.

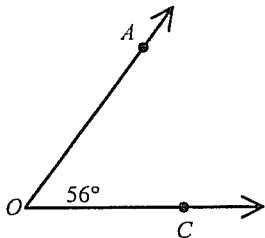


Describe how \overleftrightarrow{UV} and \overleftrightarrow{ST} are related.

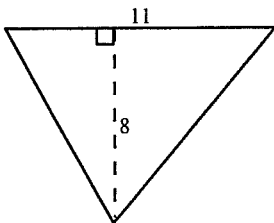
- [A] They are complementary. [B] They are right angles.
 [C] They are perpendicular lines. [D] They are parallel lines.

37. Find the measure of the supplement of $\angle AOC$.

- [A] 34° [B] 124° [C] 112° [D] 68°



38. What is the area of the triangle?



- [A] 88 sq units [B] 44 sq units [C] 76 sq units [D] 38 sq units

39. A park has a circular swimming pool. The diameter of the pool is 16 ft. What is the distance traveled if you swim around the edge of the pool once? Use $\pi = 3.14$.

- [A] 32 ft [B] 150.80 ft [C] 50.24 ft [D] 100.53 ft

40. What is the area of a circle whose diameter is 8 centimeters?

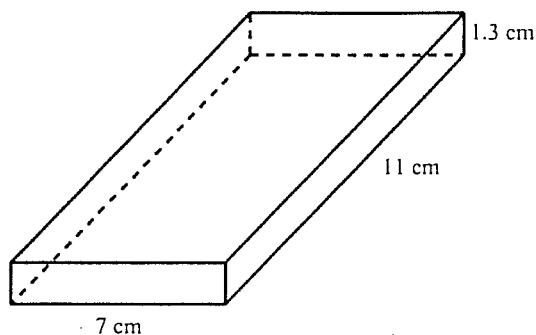
[A] 8π square centimeters

[B] 16π square centimeters

[C] 64π square centimeters

[D] 32π square centimeters

41. Find the volume of the rectangular prism.



[A] 100.1 cm^3

[B] 100.4 cm^3

[C] 77.2 cm^3

[D] 91.3 cm^3

42. Order $-4, 3, -2, 1, 0$ from least to greatest.

[A] $-4, -2, 0, 1, 3$

[B] $3, 1, 0, -2, -4$

[C] $-4, 3, -2, 1, 0$

[D] $0, 1, -2, 3, 4$

43. Solve the problem. $-4 + 10$

[A] -6

[B] 14

[C] 6

[D] -14

44. An elevator started on the 13th floor. It went up 4 floors, down 8 floors, up 9 floors, and down 6 floors. On what floor did the elevator finally stop?

[A] 10th floor

[B] 13th floor

[C] 12th floor

[D] 11th floor

45. Using a number line, determine the distance between the numbers -10 and 14 .

[A] -4

[B] 24

[C] 4

[D] -24

46. Evaluate the expression when $y = -3$.

$$y - (-4)$$

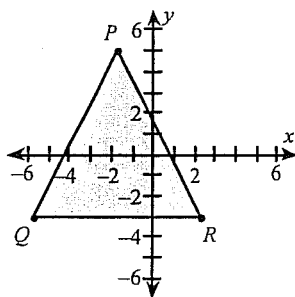
[A] -1

[B] 7

[C] 1

[D] -7

47. Use the figure below.



In which quadrant is point Q ?

[A] Quadrant 2

[B] Quadrant 1

[C] Quadrant 3

[D] Quadrant 4

48. Which of the following equations is satisfied by pairs of numbers in the table below?

x	0	3	6	9
y	-2	1	4	7

I. $y = x + 2$

II. $y = x - 2$

III. $x = y - 2$

[A] I only

[B] II and III only

[C] II only

[D] I and II only

49. A coin is tossed and a die is rolled. What is the probability that the coin shows heads and the die shows 6?

[A] $\frac{1}{12}$

[B] $\frac{1}{4}$

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

[D] $\frac{2}{3}$

50. Solve: $x - \frac{1}{9} = \frac{5}{9}$

[A] $\frac{1}{3}$

[B] $\frac{4}{9}$

[C] $\frac{4}{3}$

[D] $\frac{2}{3}$