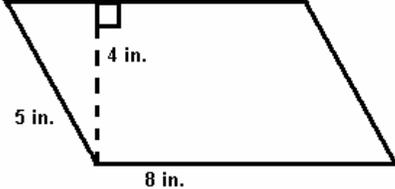




Keystone National Middle School Math Level 7 Placement Exam

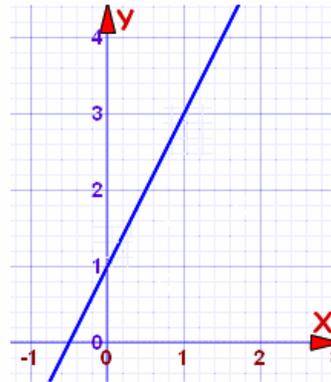
<p>1) Erica bought a car for \$24,000. She had to add Pennsylvania's sales tax of 6%. The total price of the car is closest to?</p> <p>a) \$25,500 b) \$26,000 c) \$25,000 d) \$24,000</p>	<p>2) Convert the following fraction to a decimal</p> $3\frac{15}{16}$ <p>a) 2.5472 b) 3.156 c) 3.9375 d) 4.238</p>
<p>3) Find the area of the parallelogram Hint: $A = b \times h$</p>  <p>a) 18 in^2 b) 20 in^2 c) 32 in^2 d) 40 in^2</p>	<p>4) How many ounces are in 3.5 pounds? Hint: 16 ounces = 1 pound</p> <p>a) 4.6 ounces b) 19.5 ounces c) 50 ounces d) 56 ounces</p>
<p>5) 200 students at a local college campus were asked to choose between chocolate and vanilla ice cream. 50 of the 200 students chose chocolate. If the college has a total of 1000 students, approximately how many students would prefer chocolate ice cream?</p> <p>a) 1000 b) 250 c) 50 d) 500</p>	<p>6) A cereal box has the following dimensions: height of 12 inches and width of 2 inches. If the volume of the box is 192 cubic inches, find the length of the box. Hint: $V = lwh$</p> <p>a) 10 inches b) 8 inches c) 14 inches d) 6 inches</p>

7) Add to following fractions

$$4\frac{2}{3} + 6\frac{3}{4}$$

- a) $10\frac{5}{12}$
- b) $11\frac{5}{12}$
- c) $10\frac{5}{7}$
- d) $11\frac{5}{7}$

8) What is the equation of the line shown in the following graph?



- a) $y = 2x + 1$
- b) $y = -2x + 1$
- c) $y = 2x - 1$
- d) $y = -2x - 1$

9) Out of the 15 friends that I have, the proportion of blonds to brunettes is 6 to 9. Which of the following statements is false?

- a) The ratio of the number of friends to brunettes is 15 to 9
- b) The ratio of brunettes to blonds is 6 to 9
- c) The ratio of blonds to the number of friends is 6 to 15
- d) The ratio of brunettes to the number of friends is 9:15

10) Given the function

$$y = 2x - 3$$

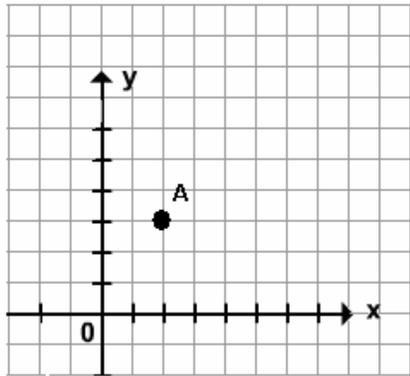
Complete the table

x	y
-4	
0	
$\frac{1}{2}$	

- a) 5, 3, -2
- b) -11, -3, -2
- c) -5, -3, 1
- d) -11, 3, 4

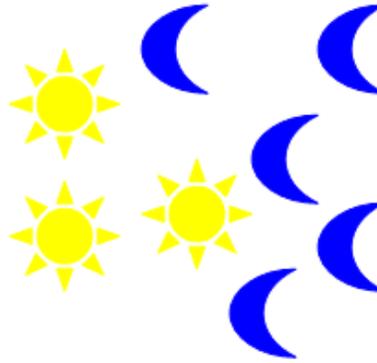
<p>11) The trail is $\frac{9}{10}$ of a mile long. It is marked by 6 evenly spaced markers. How far apart are the markers placed? Simplify your answer</p> <p>a) $\frac{3}{4}$ miles b) $\frac{1}{18}$ miles c) $\frac{3}{20}$ miles d) $\frac{9}{60}$ miles</p>	<p>12) A bag contains 3 red marbles, 4 black marbles, and 5 yellow marbles. What are the chances of picking a marble that is not black?</p> <p>a) $\frac{2}{3}$ b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) $\frac{1}{3}$</p>
<p>13) Simplify</p> $3^3 + 4(8-5) \div 6$ <p>a) 6.5 b) 29 c) 11 d) 34.16</p>	<p>14) Solve</p> $7 + 5 [(3+2)^2 - (2^3+1)]$ <p>a) 22 b) 36 c) 97 d) 87</p>
<p>15) What are the next two numbers in the pattern</p> <p>2, 7, 22, 67, ____, ____</p> <p>a) 95, 120 b) 91, 131 c) 202, 607 d) 150, 2918</p>	<p>16) Convert 0.64 to a fraction</p> <p>a) $\frac{1}{5}$ b) $\frac{1}{32}$ c) $\frac{1}{64}$ d) $\frac{16}{25}$</p>

17) Identify the coordinates of point A



- a) (2,3)
- b) (3,2)
- c) (-2,3)
- d) (-3,-2)

18) What is the ratio of yellow suns to blue moons?



- a) 3:5
- b) 3:8
- c) 5:3
- d) 5:8

19) Solve for x

$$x \div 3\frac{3}{10} = 2\frac{2}{5}$$

- a) $\frac{1}{4}$
- b) $\frac{1}{2}$
- c) $\frac{6}{11}$
- d) $\frac{8}{11}$

20) Solve for x

$$3x - 7 = 14$$

- a) $-\frac{7}{3}$
- b) $\frac{7}{3}$
- c) -7
- d) 7

21) Joe can type 60 words per minute. How long will it take him to type a 4800 word essay?

- a) 2 hours 10 minutes
- b) 1 hour 30 minutes
- c) 1 hour 20 minutes
- d) 2 hours 20 minutes

22) Dan scored $\frac{1}{4}$ of the points at last night's basketball game. What percentage of the total points did he score?

- a) 14%
- b) 20%
- c) 25%
- d) 40%

<p>23) Solve $7+(6x^5+3)$</p> <p>a) 70 b) 85 c) 91 d) 160</p>	<p>24) Which of the following is a translation of “six less than three times a number x”</p> <p>a) $3x-6$ b) $6x-3$ c) $6-3x$ d) $3-6x$</p>
<p>25) Compare the quantities</p> <p>$\frac{2}{3}x\frac{1}{4}$ and $\frac{1}{3}x\frac{3}{4}$</p> <p>a) < b) > c) = d) none of the above</p>	<p>26) How many seconds are in 2 hours and 2 minutes?</p> <p>a) 240 b) 7,320 c) 8,400 d) 2,400</p>
<p>27) Evaluate $\frac{3x-4y}{2x}$ if $x = 4$ and $y = -2$</p> <p>a) 2 b) $\frac{1}{2}$ c) $\frac{2}{5}$ d) $\frac{5}{2}$</p>	<p>28) Reduce answer to the lowest terms</p> <p>$\frac{2}{5}x\frac{2}{7}x\frac{5}{8}$</p> <p>a) $\frac{1}{2}$ b) $\frac{2}{5}$ c) $\frac{1}{14}$ d) $\frac{2}{28}$</p>
<p>29) Solve $(8 - (+2)) \times (7+(-2)) =$</p> <p>a) 30 b) 50 c) 70 d) 90</p>	<p>30) What is the mathematical expression for “the \$100 earned was split between all the people and each got \$12.50”?</p> <p>a) $100 - p = 12.50$ b) $100/p = 12.50$ c) $100p = 12.50$ d) $100p + 12.50$</p>

31) Use the table to find the number of students who scored in the 70's

Stem	Leaf
9	1, 4, 7, 7, 9
8	0, 1, 1, 4, 7
7	2, 4, 4, 6
6	5, 6, 9

- a) 5
- b) 7
- c) 6
- d) 4

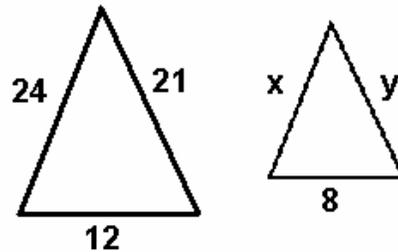
32) Sue has twice as much money as Chris. Together they have nine dollars. Let x equal the amount of money that Chris has. Which of the following equations can be used to find the amount of money that Sue and Chris each have?

- a) $x + 2x = 9$
- b) $2(x+2) = 9$
- c) $2x = 9$
- d) $2x - x = 9$

33) Frank has 224 board games. He bought $\frac{3}{4}$ of his games on the Internet. Of the games he bought on the Internet, $\frac{1}{6}$ are card games. How many card games did he buy on the Internet?

- a) 14 games
- b) 30 games
- c) 28 games
- d) 42 games

34) Find the value of x and y



- a) $x=4$ and $y=5$
- b) $x=8$ and $y=3$
- c) $x=16$ and $y=14$
- d) $x=14$ and $y=7$

35) You select a letter at random from the following letters

A B C D E

Find the theoretical probability of selecting a vowel?

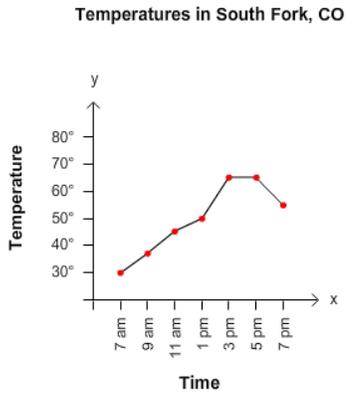
- a) $\frac{1}{2}$
- b) $\frac{2}{5}$
- c) $\frac{3}{4}$
- d) $\frac{4}{7}$

36) The chart below shows the response from 20 students as to how many times a day he or she drinks from the water fountain. What is the median?

0	1	1	5	2
10	2	3	5	1
5	2	2	3	4
3	5	5	2	2

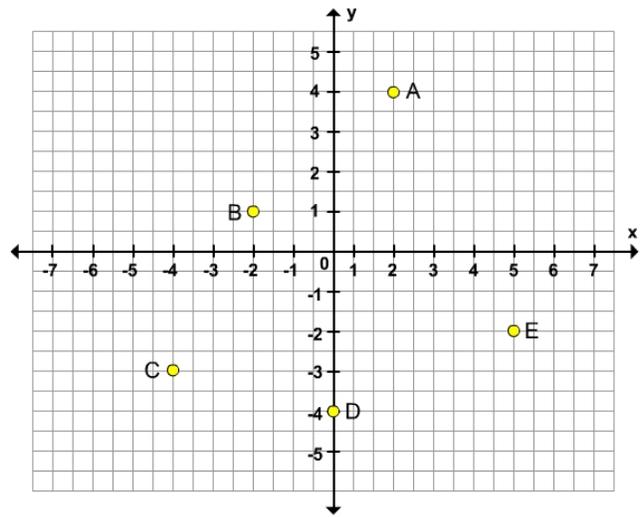
- a) 2
- b) 2.5
- c) 3
- d) 3.5

37) Use the line graph to determine during which 2 hour period did the temperature not change



- the temperature did not change between 7 am and 9 am
- the temperature did not change between 11 am and 1 pm
- the temperature did not change between 5 pm and 7 pm
- the temperature did not change between 3 pm and 5 pm

38) Name the coordinates of point A and B on the graph below



- (2, 4) and (-2, 1)
- (-2, -4) and (-2, -1)
- (-2, 4) and (2, -1)
- (2, -4) and (2, 1)

39) The length of a track around a field is $\frac{1}{4}$ miles. You jog $3\frac{1}{2}$ times around the track. How far do you jog?

- $\frac{1}{2}$ miles
- $\frac{2}{5}$ miles
- $\frac{7}{8}$ miles
- 1 mile

40) You received the following scores in math class:

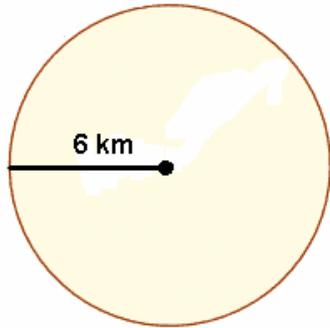
95 89 83 90 83

Should you describe your tests using the mean, the median or the mode to show how well you are doing in math?

- mean
- mode
- median
- none of the above

41) Find the circumference of the circle below

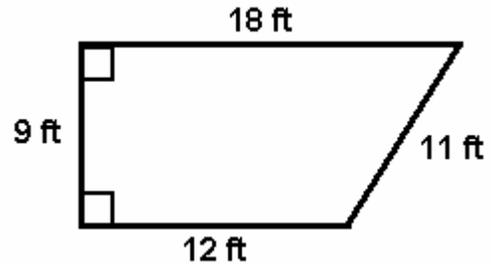
Hint: Circumference = $\pi \times$ diameter



- a) 12.2 km
- b) 37.7 km
- c) 42.1 km
- d) 113.7 km

42) Find the area of this trapezoid

Hint: Area = $\frac{1}{2} h(b_1 + b_2)$



- a) 50 ft²
- b) 108 ft²
- c) 135 ft²
- d) 162 ft²

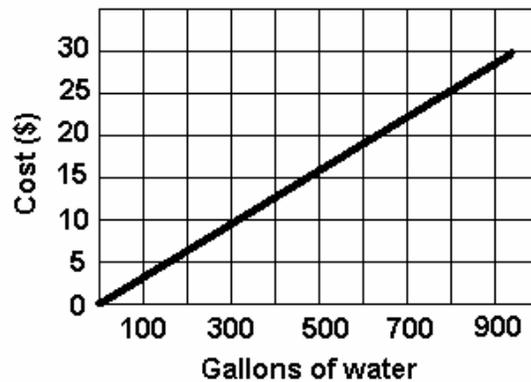
43) You attempt 16 free throws in a basketball game. Your results are shown below.

0 = miss 1 = make							
0	0	1	1	1	0	1	0
0	1	0	1	1	0	0	1

What is the experimental probability of making a free throw?

- a) $\frac{1}{4}$
- b) $\frac{1}{2}$
- c) $\frac{2}{3}$
- d) $\frac{3}{4}$

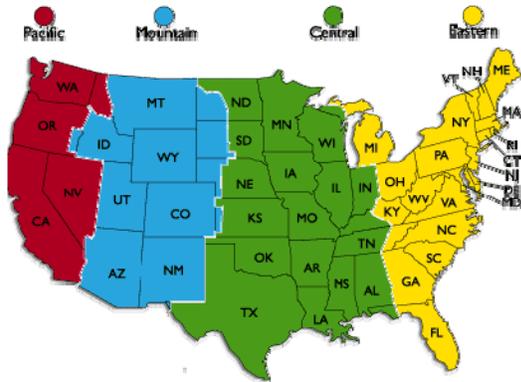
44) What is the estimated cost of 600 gallons of water?



- a) \$10
- b) \$15
- c) \$20
- d) \$25

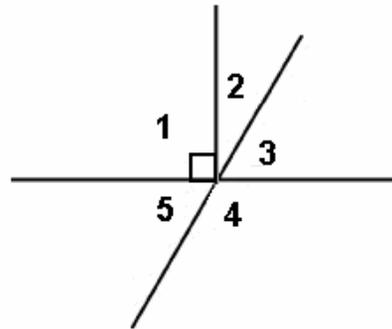
45) The continental United States has four time zones. Consider time changes as positive when going east and negative when going west. Find the time in the indicated time zone

6:00 A.M.: 2 time zones east



- a) 4:00 A.M.
- b) 7:00 A.M.
- c) 8:00 A.M.
- d) 9:00 A.M.

46) Which angles are complementary?

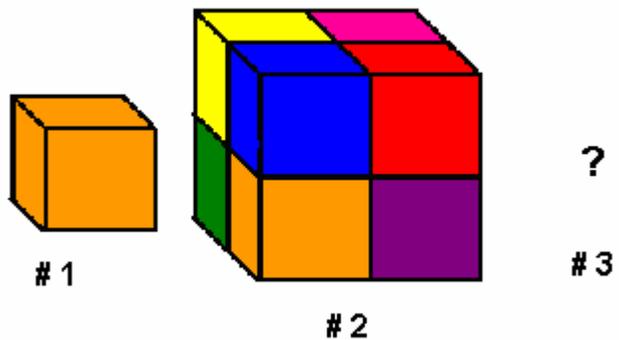


- a) 1 and 2
- b) 3 and 4
- c) 4 and 5
- d) 2 and 3

47) The length of the wing of a model airplane is 3 inches. If the scale of the model plane to the actual plane is 1 inch = 25 feet, what is the length of the actual wing?

- a) 50
- b) 75
- c) 100
- d) 125

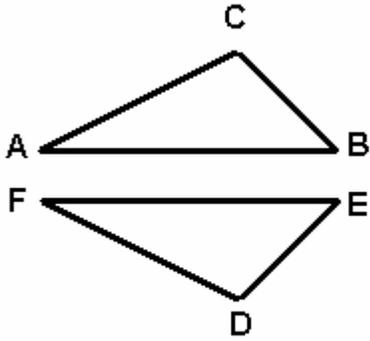
48) Using the pattern of two prisms below. How many cubes will there be in a third prism?



- a) 12
- b) 24
- c) 27
- d) 32

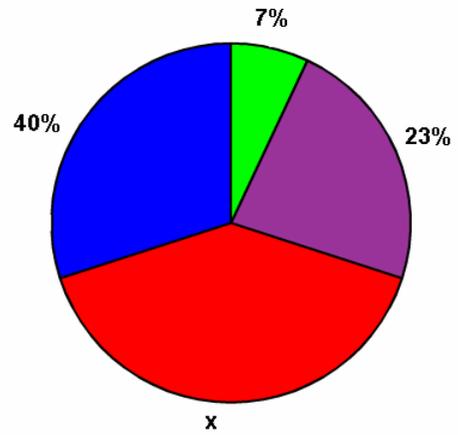
49) Complete the congruence statement

$\triangle ABC \cong$ _____



- a) $\triangle FED$
- b) $\triangle FDE$
- c) $\triangle DFE$
- d) $\triangle FE$

50) Using the given chart, find the percentage of x



- a) 30%
- b) 20%
- c) 110%
- d) 29%