

**Question 1**

Use the formula  $C = \frac{5}{9}(F - 32)$ . What is the temperature in degrees Celsius if the temperature in Fahrenheit is  $86^\circ\text{F}$ ?

- A.  $186.8^\circ\text{C}$                       B.  $97.2^\circ\text{C}$                       C.  $30^\circ\text{C}$                       D.  $54^\circ\text{C}$

**Question 2**

If  $x = -2$ , and  $y = x^2 - 4x + 9$ , What is the value of  $y$ ?

- F. 13                      G. 21                      H. -3                      J. 3

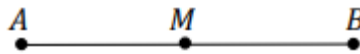
**Question 3**

A basket of fruit has 5 bananas, 4 oranges, 7 apples and 2 grapefruits. What is the probability of selecting a fruit that is NOT apple or banana?

- A.  $\frac{1}{3}$                       B.  $\frac{7}{18}$                       C.  $\frac{11}{18}$                       D.  $\frac{2}{3}$

**Question 4**

Given midpoint  $M(-5,9)$  and endpoint  $A(7,19)$ , what is the  $x$  value of endpoint  $B$ ?



- F. -7                      G. 17                      H. 7                      J. -17

**Question 5**

Which is not a factor of  $10x^3 + 28x^2 - 6x$ ?

- A.  $x$                       B.  $x - 3$                       C.  $x + 3$                       D.  $5x - 1$

**Question 6**

Ashley wants an average grade of 82 from her four Geometry exams. The scores for her first three exams are 73, 88, and 78. What grade would Amy need to earn on her fourth exam to have an average grade of 82?

- A. 98                      B. 87                      C. 89                      D. 83

**Question 7**

If the perimeter of a square is 48 units and one side of the square is  $6x$  units, find the value of  $x$ ?

F. 3

G. 2

H. 12

J. 24

**Question 8**

A number is 4 less than another number, if twice the small number is equal to the bigger number, what is the value of the smaller number?

A. 7

B. 6

C. 5

D. 4

**Question 9**

Simplify  $\left(\frac{5}{y^4}\right)^2$

A.  $\frac{25}{y^6}$ B.  $\frac{10}{y^6}$ C.  $\frac{25}{y^8}$ D.  $\frac{10}{y^8}$ **Question 10**

If  $4b + 1 = b$ , what is the value of  $24b$ ?

F. 8

G. -8

H. -6

J.  $-\frac{1}{3}$ **Question 11**

If  $\frac{2}{3x} + \frac{1}{x} = 30$ , What is the value of  $x$ ?

A.  $\frac{1}{18}$ 

B. 18

C.  $\frac{3}{2}$ D.  $\frac{5}{3}$ **Question 12**

If  $p$  is the original price of an item. Which equation can be used to find the new price after 10% off?

F.  $0.10p$ G.  $10p$ H.  $0.90p$ J.  $1.10p$ **Question 13**

A set of numbers 2,3,6,6,8,9 if number 2 was removed from the set, Which of these will not change?

F. mean

G. range

H. mode

J. median

**Question 14**

If  $x$  is the number of miles per hour John is driving, how many miles will he cover in 90 minutes?

- A.  $\frac{3}{2}x$                       B.  $\frac{2}{3}x$                       C.  $\frac{9}{2}x$                       D.  $\frac{2}{5}x$

**Question 15**

James has 5 friends, he has 2 extra tickets to a baseball game, how many ways he can choose the two friends that can go with him ?

- A. 7                              B. 5                              C. 8                              D. 10

**Question 16**

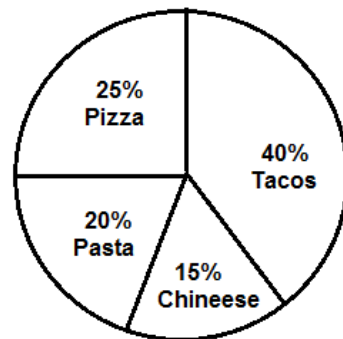
If  $3a^2 + n - b^2 = (3a - b)(a + b)$ ? Which expression represents  $n$  ?

- F.  $-2ab$                       G.  $2ab$                       H.  $3ab$                       J.  $-ab$

**Question 17**

A survey was conducted of 200 people of their favorite food. What is the difference of the number people that like Tacos and the people that like pizza?

- A. 45  
B. 35  
C. 30  
D. 55

**Question 18**

What values of  $h$  make the equation  $(h - 3)^2 - 5 = 4$  true?

- A.  $\{-6, 6\}$                       B.  $\{-3, 3\}$                       C.  $\{-6, 0\}$                       D.  $\{0, 6\}$

**Question 19**

Which value will result in the expression being not defined  $\frac{x^2 - 5x + 9}{3x - 6}$  ?

- A.  $-2$                               B.  $2$                               C.  $-1$                               D.  $1$

**Question 20**

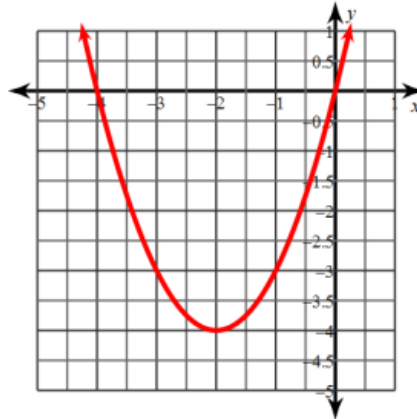
What are the factors of  $25x^2 - 100$  ?

- A.  $(5x - 10)(5x + 10)$       B.  $(5x - 10)^2$       C.  $(25x - 1)(x + 100)$       D.  $(x - 1)(x + 100)$

**Question 21**

Given the vertex form of the graph  $y = (x - h)^2 + k$ , what is the value of  $k$  ?

- A. -2  
B. -4  
C. -8  
D. 4

**Question 22**

Given  $f(x) = \frac{x}{2x-1}$ , what is the value of  $f(-1)$  ?

- A.  $-\frac{1}{3}$       B. 1      C. -1      D.  $\frac{1}{3}$

**Question 23**

Simplify  $\frac{x^2-2x}{x}$  :

- A.  $-2x$       B.  $x - 2$       C.  $x + 2$       D.  $2x$

**Question 24**

Which of the following results in **no real** solution?

- A.  $x^2 = 16$       B.  $-x^2 = 16$       C.  $-x^2 = -16$       D.  $x^2 - 16 = 0$

**Question 25**

Solve for x for the equation  $\frac{2}{x} = \frac{18}{7}$

- F.  $\frac{7}{9}$       G.  $\frac{9}{7}$       H.  $\frac{9}{14}$       J.  $\frac{14}{9}$