

F1 Early Summer Assignment: MC 01

1. $1.5 \div [-5 - (-10)] \times (-\frac{1}{3}) =$
 - A. -0.9
 - B. -0.18
 - C. -0.1
 - D. $\frac{1}{30}$
2. Which of the following is a negative number?
 - A. $\frac{(-2)(+5)(-3)}{(-4)(-8)}$
 - B. $\frac{(+6)(-7)}{(+10)(-2)}$
 - C. $\frac{(+3)(+20)}{(-2)(-6)(-4)}$
 - D. $\frac{-9}{(-3)(+7)}$
3. Which of the following is correct?
 - A. $(+3) + (-3) > 0$
 - B. $(+3) + (-3) < 0$
 - C. $(+3) - (-3) > 0$
 - D. $(+3) - (-3) < 0$
4. Put a cup of water of 13°C into a refrigerator. The temperature of water decreases by 20°C . What is its temperature now?
 - A. -20°C
 - B. -7°C
 - C. 0°C
 - D. 7°C
5. a , b and c are three numbers on a number line. b is on the left of a . c is on the right of a . Arrange a , b and c in ascending order of their values.
 - A. a, c, b
 - B. c, a, b
 - C. a, b, c
 - D. b, a, c

6. If a, b, c and d are four different integers and $a \times b \times c \times d = 9$, then $a + b + c + d =$
- 8.
 - 4.
 - 0.
 - 4.
7. $-3^2 - (-5) \times (-4) =$
- 29
 - 11
 - 11
 - 29
- 8.
- $$(-1) + (-1) \times (-1) + (-1) \times (-1) \times (-1) + \cdots + \underbrace{(-1) \times (-1) \times \cdots \times (-1)}_{100 \text{ terms}} =$$
- 1
 - 0
 - 1
 - 100
9. The value of x in the sequence $\frac{1}{2}, \frac{3}{4}, \frac{5}{6}, x, \frac{9}{10}, \dots$ is
- $\frac{6}{7}$.
 - $\frac{7}{8}$.
 - $\frac{8}{9}$.
 - 1.
10. The 9th term of the sequence $\frac{1}{3}, \frac{1}{5}, \frac{1}{7}, \frac{1}{9}, \frac{1}{11}, \dots$ is
- $\frac{1}{13}$.
 - $\frac{1}{15}$.
 - $\frac{1}{17}$.
 - $\frac{1}{19}$.

11. The algebraic form of “triple the sum of x and the square of y ” is
- A. $3(x + y)^2$
 - B. $3(x + y^2)$
 - C. $3(x^2 + y^2)$
 - D. $x^2 + 3y^2$
12. Jack walks for 3 hours at a speed of p km/h and then rides a bicycle for 2 hours at a speed of q km/h. How far does he go?
- A. $6pq$ km
 - B. $(3p + 2q)$ km
 - C. $(\frac{3}{p} + \frac{2}{q})$ km
 - D. $(\frac{p}{3} + \frac{q}{2})$ km
13. If $x = -2$, then $x^3 - x^2 + x + 3 =$
- A. -11 .
 - B. -3 .
 - C. -1 .
 - D. 1 .
14. Given the formula $c = (d - 1)(e + 1)$, find the value of c when $d = -3$ and $e = -2$.
- A. -2
 - B. 4
 - C. 6
 - D. 15
15. The total cost of y oranges and x dozens of apples is $\$S$. If each orange costs $\$c$, how much does each apple cost?
- A. $\$(\frac{S - cy}{x})$
 - B. $\$(\frac{S - 12cx}{y})$
 - C. $\$(\frac{S - cy}{12x})$
 - D. $\$(\frac{S - 12cy}{x})$

16. The general term of the sequence $\frac{1}{10}, \frac{3}{11}, \frac{5}{12}, \frac{7}{13}, \frac{9}{14}, \dots$ is

- A. $\frac{2n+1}{10+n}$.
- B. $\frac{2n-1}{10+n}$.
- C. $\frac{2n+1}{n+9}$.
- D. $\frac{2n-1}{n+9}$.

17. Which of the following is not a term in the sequence with the general term $\frac{1}{2n(2n+3)}$?

- A. $\frac{1}{54}$
- B. $\frac{1}{130}$
- C. $\frac{1}{180}$
- D. $\frac{1}{236}$

18. $2a^3 \times 3a^5 =$

- A. $5a^8$
- B. $6a^8$
- C. $5a^{15}$
- D. $6a^{15}$

19. $(5x^2)^3 =$

- A. $15x^5$
- B. $125x^5$
- C. $5x^6$
- D. $125x^6$

20. $(3x^2 - x + 6) - (-2x^2 - 5) =$

- A. $x^2 - x + 11$
- B. $x^2 - x - 1$
- C. $5x^2 - x - 1$
- D. $5x^2 - x + 11$

21. Given that $M = 2a^2b$, $N = 3ab^2$ and $P = -4a^2b$, then

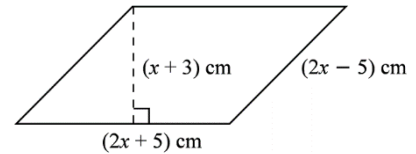
- A. $M + N = 5a^3b^3$.
- B. $N + P = -ab$.
- C. $M + P = -2a^2b$.
- D. $M - P = 2a^2b$.

22. When we add a polynomial to $4x^3 - 2x^2 - x - 1$, the result is $3x^3 - x^2 + x - 3$. Find the polynomial.

- A. $x^3 - 3x^2 - 4$
- B. $7x^3 - 3x^2 - 4$
- C. $-x^3 + x^2 + 2x - 2$
- D. $x^3 - x^2 - 2x + 2$

23. In the above figure, find the area of the parallelogram.

- A. $8x \text{ cm}^2$
- B. $(4x^2 - 25) \text{ cm}^2$
- C. $(2x^2 + x - 15) \text{ cm}^2$
- D. $(2x^2 + 11x + 15) \text{ cm}^2$



24. If we subtract a polynomial from the sum of $x^2y - 3xy^2$ and $7x^2y + 4xy^2 + 3xy$, the result is $5x - 3y$. Find the polynomial.

- A. $8x^2y + xy^2 + 3xy - 5x + 3y$
- B. $8x^2y - xy^2 - 3xy - 5x + 3y$
- C. $8x^2y + xy^2 + 3xy + 5x - 3y$
- D. $6x^2y - 7xy^2 + 3xy - 5x + 3y$

25. If we multiply a polynomial by $-3a^2$, the result is $15a^4 - 3a^2$. The polynomial is

- A. $-5a^2 + 1$.
- B. $5a^2 + 1$.
- C. $-45a^6 + 9a^4$.
- D. $45a^6 - 9a^4$.

26. Polly is y cm tall and Ricky is 142 cm tall. Polly is 8 cm shorter than Ricky. Which of the following equations can represent the above information?

- A. $8y = 142$
- B. $y - 8 = 142$
- C. $y - 142 = 8$
- D. $142 - y = 8$

27. The solution of the equation $\frac{1}{3}x + 1 = 0$ is

- A. $x = -3$.
- B. $x = -1$.
- C. $x = 1$.
- D. $x = 3$.

28. If $\frac{x}{6} - 2 = 1$, then $x =$
- A. $\frac{1}{2}$.
 - B. 6.
 - C. 9.
 - D. 18.
29. The solution of the equation $8x - 4 = 15x + 24$ is
- A. 4.
 - B. -4.
 - C. $-\frac{20}{7}$.
 - D. $-\frac{28}{23}$.
30. If $\frac{x \square 4}{3} + 1 = \frac{x}{2}$, then $x =$
- A. -7.
 - B. -2.
 - C. 1.
 - D. 2.
31. If $\frac{x}{3} = 4y$ and $5y = 15$, then $x =$
- A. 3.
 - B. 12.
 - C. 36.
 - D. 60.
32. $5x + 3 = 0$ and $5x + 3m = 27$ are two equations in x . If they have the same solution, then $m =$
- A. 1.
 - B. 8.
 - C. 9.
 - D. 10.
33. Winnie buys 3 apples and 4 peaches at \$36. If an apple is \$2 cheaper than a peach, how much does an apple cost?
- A. \$3
 - B. \$4
 - C. \$5
 - D. \$6

34. There is a two-digit number. The ten digit is smaller than the unit digit by 3. The sum of the two digits is equal to $\frac{1}{4}$ of this number. Find the number.
- A. 25
B. 36
C. 52
D. 63
35. If $x = 7$ is the solution of the equation $\frac{x}{3} + k = \frac{1}{3}$, then the solution of the equation $5x + 4 = 3x + k$ is
- A. $x = -\frac{20}{3}$.
B. $x = -3$.
C. $x = -1$.
D. $x = 3$.
36. Car A starts travelling from place X and car B starts travelling from place Y at the same time. They travel towards each other. They meet after 4 hours. If places X and Y are 264 km apart and the speed of car A is 1.2 times that of car B, how far does car B travel in one hour?
- A. 30 km
B. 36 km
C. 60 km
D. 120 km