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**Score: 58/63 (92.06%)**

**Code: 4189**

1. What is the value of  $14x + 3y + 25x + 2y$ ?

- A)  $17x + 27y$                       B)  $16x + 28y$   
**C)  $39x + 5y$  (Correct)**              D)  $44xy$

2. What is the multiplication value of  $5a^2 \times 8a^5 \times b^3$ ?

- A)  $40a^7 b^4$  (Correct)**              B)  $40a^3 b^2$   
 C)  $40a^4 b^7$                       D)  $40a^2 b^3$

3. What is the simplified value of  $(3x + 15) / 5x + 25$ ?

- A)  $(5/3)$                                   **B)  $(3/5)$  (Correct)**  
 C)  $(-5/3)$                               D)  $(-3/5)$

4. What is the value of x if  $13 + x = 20$ ?

- A) 8                                      **B) 7 (Correct)**  
 C) 9                                      D) 13

5. What is the value of x, if  $x \times (120) = 960$ ?

- A) 6                                      B) 7  
**C) 8 (Correct)**                      D) 10

6. What is the formula for  $a^m \times a^n$ ?

- A)  $a^{m+n}$  (Correct)**              B)  $a^{m-n}$   
 C)  $a^{mn}$                               D)  $n \cdot a^m$

7. Which is the formula for  $a^m / a^n$ ?

- A)  $a^{m+n}$                               **B)  $a^{m-n}$  (Correct)**  
 C)  $a^{mxn}$                               D)  $\frac{a^m}{a^n}$  (Incorrect)

8. What is the value of any number raised to the power of 0?

- B) 1 (Correct)**  
 C) (-1)                                  D) Alpha (?)

9. Which is equal to  $(a^m)^n$ ?

- A)  $a^{m-n}$                               B)  $a^{m+n}$   
 C)  $a^{m/n}$                               **D)  $a^{mn}$  (Correct)**

10. What is the expanded form of  $(a+b)^2$ ?

- A)  $a^2 + 2ab + b^2$  (Correct)**              B)  $a^2 - 2ab + b^2$   
 C)  $a^2 + 2ab - b^2$               D)  $(-a)^2 - 2ab + b^2$

11. What is the formula for  $(a-b)^2$ ?

- A)  $a^2 - 2ab + b^2$  (Incorrect)**              B)  $a^2 + 2ab + b^2$   
 C)  $a^2 - 2ab - b^2$               D)  $(-a)^2 - 2ab - b^2$

12. Which is equal to  $(a+b)^2 - (a-b)^2$ ?

- A)  $2ab$                                   B)  $3ab$   
**C)  $4ab$  (Correct)**                      D)  $5ab$

13. What is the value of  $a^2 \times a^3 \times a^4$ ?

- A)  $a^7$                                       B)  $a^8$   
 C)  $a^9$                                       **D)  $a^{10}$  (Correct)**

14. What is the value of  $(a^5)^7$ ?

- A)  $a^{35}$  (Correct)**                      B)  $a^{12}$   
 C)  $a^{21}$                                   D)  $a^{22}$

15. What is the value of  $625^0$ ?

- B) 1 (Correct)**  
 C) 525                                      D) 25

16. What is the value of  $1 / a^{-5}$ ?

- A)  $a^5$  (Correct)**                              B)  $a^{-5}$   
 C)  $5a$                                       D)  $(-5a)$

17. What is the value of  $5x^4 / 5x^3$ ?

- A)  $5x$                                       B)  $5x^2$   
**C)  $x$  (Correct)**                              D)  $5x^4 / 5x^3$

18. What is the subtracted value of  $3x - 4x^2$ ?

+2y<sup>2</sup> from 4y<sup>2</sup>-2x + 8x<sup>2</sup>?

**A) 2y<sup>2</sup> - 5x + 12x<sup>2</sup> (Correct)**

B) 2y<sup>2</sup> + 5x - 12x<sup>2</sup>

C) 2y<sup>2</sup> - 5x - 12x<sup>2</sup>

D) (-2y<sup>2</sup>-5x + 12x<sup>2</sup>)

19. What is the value of adding (5x+2y), (4x - 7z) and (15z - 3y)?

**A) 9x - y + 8z (Correct)**

B) x - 9y + 8z

C) x + 9y + 8z

D) 9x + y - 8z

20. What is the value of 12x<sup>3</sup>y<sup>2</sup> / 4x<sup>2</sup>y?

A) 8xy

B) 16xy

**C) 3xy (Correct)**

D) (-3xy)

21. What is the value of x, if 3(2x - 4) = -4x + 28?

**A) 4 (Correct)**

B) 8

C) 6

D) 12

22. What is the value of x if (x + 2) / 2 = 19?

A) 38

B) 33

C) 35

**D) 36 (Correct)**

23. What is the value of x if 11x+4=37?

A) 2

**B) 3 (Correct)**

C) 4

D) 5

24. Which is the expansion of a<sup>3</sup> + b<sup>3</sup>?

A) (a-b)(a<sup>2</sup> + b<sup>2</sup> - ab)

**B) (a+b)(a<sup>2</sup> + b<sup>2</sup> - ab) (Correct)**

C) a<sup>3</sup> + b<sup>3</sup> + 3ab(a+b)

D) a<sup>3</sup> - b<sup>3</sup> + 3ab(a-b)

25. What is the expansion of (a+b+c)<sup>2</sup>?

**A) a<sup>2</sup> + b<sup>2</sup> + c<sup>2</sup> + 2(ab + bc + ca) (Correct)**

B) a<sup>2</sup> + b<sup>2</sup> + c<sup>2</sup> - 2ab + 2bc + 2ca

C) a<sup>2</sup> + b<sup>2</sup> + c<sup>2</sup> + 2ab - 2bc + 2ca

D) a<sup>2</sup> - b<sup>2</sup> + c<sup>2</sup> + 2ab + 2bc + 2ca

26. Which is expanded form of a<sup>3</sup>-b<sup>3</sup>?

A) (a+b)(a<sup>2</sup> - b<sup>2</sup> - ab)

**B) (a-b)(a<sup>2</sup> + b<sup>2</sup> + ab) (Correct)**

C) (a-b)(a<sup>2</sup> - b<sup>2</sup> - ab)

D) (a-b)(a<sup>2</sup> - b<sup>2</sup> + ab)

27. What is the value of (6<sup>3</sup>) / ((-3)<sup>3</sup>)?

A) 8

**B) (-8) (Correct)**

C) 27

D) (-27)

28. What is the value of x<sup>2</sup>-y<sup>2</sup> if (x+y) = 9, (x - y) = 4?

A) 13

B) 65

**C) 36 (Correct)**

D) 46

29. What is the value of 'X' if x - y = 6 and x + y = 8?

A) 5

B) 6

**C) 7 (Correct)**

D) 14

30. What is the value of a<sup>2</sup>+b<sup>2</sup> if a+b=9 and ab = 20?

A) 121

B) (-121)

**C) 41 (Correct)**

D) (-41)

31. What is the value of ab if (a+b)<sup>2</sup>=36 (a-b)<sup>2</sup>=24?

A) 6

B) 4

**C) 3 (Correct)**

D) 2

32. What is the value of x<sup>3</sup>+3y<sup>2</sup>x<sup>2</sup> if x=3, y=2?

**A) 135**

B) 81

C) 54

D) 63 (Incorrect)

33. What are the three consecutive numbers if their sum is 42?

A) 11,12,13

B) 12,13,14

**C) 13,14,15 (Correct)**

D) 14,15,16

34. What is the name called biggest chord of the circle?

A) Arc

**B) Diameter (Correct)**

C) Radius

D) Diagonal

35. What is the length of arc of a sector, whose perimeter is 64.8cm and radius is 12.4 cm?

**A) 40 cm (Correct)**

B) 45 cm

C) 40.8 cm

D) 42 cm

36. What is the length of arc of the sector whose radius is 15

cm and the intended angle is 30 Degree?

- A) **7.85 cm (Correct)**      B) 7.25 cm  
C) 6.75 cm                      D) 6.85 cm

37. What is the area of the sector, if the diameter is 12 cm and the angle is 60 Degree?

- A) 18.0 cm<sup>2</sup>      B) 17.75 cm<sup>2</sup>  
C) 19.00 cm<sup>2</sup>      **D) 18.84 cm<sup>2</sup> (Correct)**

38. What is the area of the circle, if the circumference of the circle is 44cm?

- A) 128 cm<sup>2</sup>      B) 130 cm<sup>2</sup>  
**C) 154 cm<sup>2</sup> (Correct)**      D) 129 cm<sup>2</sup>

39. What is the radius of the circle if the angle of sector is 90 Degree and the area of the circle is 196 cm<sup>2</sup>?

- A) **15.77 cm**      B) 15 cm  
C) 14.85 cm      D) 14.95 cm (Incorrect)

40. What is the area of the sector, whose diameter is 40 mm and angle is 120 Degree?

- A) **418.66 mm<sup>2</sup> (Correct)**      B) 400.50 mm<sup>2</sup>  
C) 415.5 mm<sup>2</sup>      D) 416.6 mm<sup>2</sup>

41. What is the length of arc of a sector, whose radius is 15 cm and angle is 40 Degree?

- A) 9.75 cm      B) 9.8 cm  
C) 10.60 cm      **D) 10.4 cm (Correct)**

42. What is the length of arc of a sector whose radius is 3.6 cm and angle is 36 Degree?

- A) 2.10 cm      **B) 2.26 cm (Correct)**  
C) 22.6 cm      D) 21.0 cm

43. What is the area of the circle, whose diameter is 50 cm?

- A) 1900 cm<sup>2</sup>      B) 1950 cm<sup>2</sup>  
**C) 1962.5 cm<sup>2</sup> (Correct)**      D) 1960 cm<sup>2</sup>

44. What is the name of the region of a circle between any two point on the circumference?

- A) Arc (Incorrect)      **B) Segment**  
C) Sector                      D) Chord

45. What is the radius of the circle, whose circumference is 440 cm?

- A) 71.5 cm      **B) 70 cm (Correct)**  
C) 70.5 cm      D) 72.2 cm

46. What is the area of a circular surface if the radius is 14 cm?

- A) **615.44 cm<sup>2</sup> (Correct)**      B) 614.5 cm<sup>2</sup>  
C) 612.25 cm<sup>2</sup>      D) 612.44 cm<sup>2</sup>

47. What is the circumference of a circle whose diameter is 7 cm?

- A) **22 cm (Correct)**      B) 44 cm  
C) 25 cm                      D) 21 cm

48. What is the radius of a circle whose diameter is 44 cm?

- A) 44 cm      **B) 22 cm (Correct)**  
C) 23 cm                      D) 20 cm

49. What is the diameter of the circle, if the area of the circle is 78.5cm<sup>2</sup>?

- A) 5 cm      **B) 10 cm (Correct)**  
C) 15 cm                      D) 5.5 cm

50. What is the area of the circle if the radius is 10 cm?

- A) **314 cm<sup>2</sup> (Correct)**      B) 31.4 cm<sup>2</sup>  
C) 30.4 cm<sup>2</sup>      D) 3.14 cm<sup>2</sup>

51. What is the radius of the semicircle, if the circumference of the semicircle is 28.26 cm?

- A) **5.49 cm (Correct)**      B) 6.49 cm  
C) 8.5 cm                      D) 8.75 cm

52. What is the diameter of the semicircle, if the circumference of the semicircle is 21.98 cm?

- A) **8.55 cm (Correct)**      B) 8 cm  
C) 7.55 cm                      D) 7 cm

53. What is the area of the semicircle, if the diameter is 14 cm?

- A) 70 cm<sup>2</sup>      **B) 76.93 cm<sup>2</sup> (Correct)**  
C) 75.06 cm<sup>2</sup>      D) 86.93 cm<sup>2</sup>

54. What is the diameter of the circle, if the area of the circle is 706.5cm<sup>2</sup>?

- A) 29 cm      B) 29.5 cm  
**C) 30 cm (Correct)**      D) 30.5 cm

55. What is the diameter of the circle, if the circumference is

- 31.4 cm?  
A) 5 cm                      **B) 10 cm (Correct)**  
C) 8 cm                      D) 8.5 cm
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56. Which machine converts mechanical energy into electrical energy?  
A) Battery                      **B) Generator (Correct)**  
C) Heater                      D) Iron box
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57. Which is the unit of current?  
**A) Ampere (Correct)**              B) Volt  
C) Ohm                      D) Watt
- 
58. Which is the unit of resistance?  
A) Ampere                      B) Volt  
**C) Ohm (Correct)**              D) Watt
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59. What is the flow of electrons in any conductor?  
A) Voltage                      **B) Current (Correct)**
- 
- C) Resistance                      D) Power
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60. Which property of a substance is opposing the flow of electric current?  
A) Current                      B) Voltage  
**C) Resistance (Correct)**              D) EMF
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61. Which is very good conductor?  
**A) Copper (Correct)**              B) Cast iron  
C) Wrought iron              D) Steel
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62. Which is mineral insulator  
A) Glass                      B) Quartz  
**C) Mica (Correct)**              D) Porcelain
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63. What is the total resistance if three resistances of 3 ohms, 9 ohms and 5 ohms are connected in series?  
A) 11 ohms                      B) 7 ohm  
**C) 17 ohms (Correct)**              D) 1/17 ohms
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