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WINTER BREAK HOME WORK(CLASS-8)

1. Add the following.

(i) ab – bc, bc – ca, ca – ab

(ii) a – b + ab, b – c + bc, c – a + ac

2. **(a) Subtract *4a – 7ab + 3b + 12* from *12a – 9ab + 5b – 3***

(b) Subtract *3xy + 5yz – 7zx* from *5xy – 2yz – 2zx + 10xyz*

3. **Obtain the product of**

(i) xy, yz, zx **(ii) a, $-a^2$, a^3**

4. **Find the product.**

i) $a^2 \times (2a^{22}) \times (4a^{26})$ ii) $(2/3\ xy) \times (-9/10\ x^2y^2)$

5. **(a) Add: *p (p – q), q (q – r) and r (r – p)***

(b) Subtract: *3a (a + b + c) – 2 b (a – b + c)* from *4c (– a + b + c)*

6. **Find the product.**

(i) (5 – 2x) (3 + x)

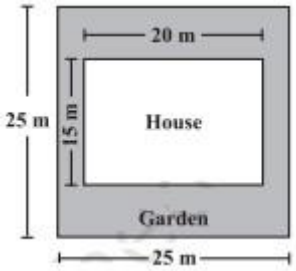
(ii) (x + 7y) (7x – y)

7. **Simplify.**

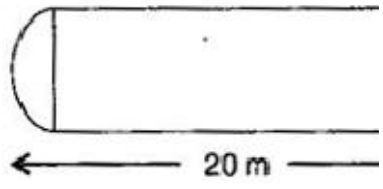
(i) (1.5x – 4y)(1.5x + 4y + 3) – 4.5x + 12y

(ii) (a + b + c)(a + b – c)

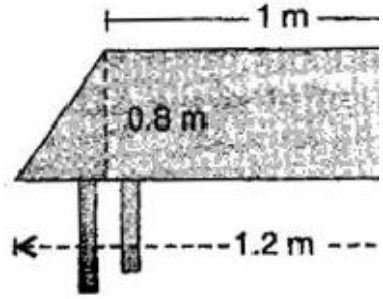
8. **Mrs.Kaushik has a square plot with the measurement as shown in the figure. She wants to construct a house in the middle of the plot. A garden is developed around the house. Find the total cost of developing a garden around the house at the rate of Rs. 55 per m^2.**



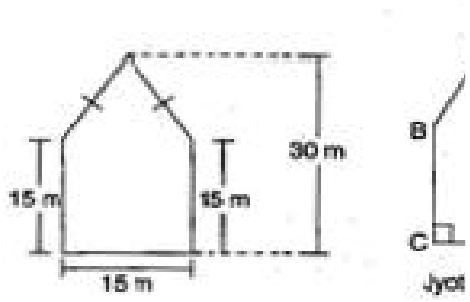
9. **The shape of a garden is rectangular in the middle and semi-circular at the ends as shown in the diagram. Find the area and the perimeter of this garden [Length of rectangle is 20 – (3.5 + 3.5 meters]**



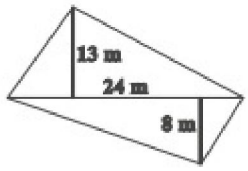
10. **The shape of the top surface of a table is a trapezium. Find its area if its parallel sides are 1 m and 1.2 m and perpendicular distance between them is 0.8 m.**



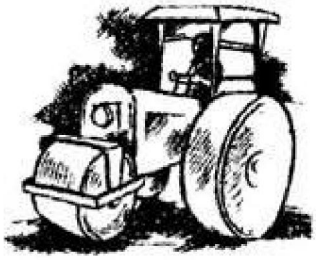
11. There is a pentagonal shaped park as shown in the figure.
For finding its area Jyoti and Kavita divided it in two different ways. Find the area of this park using both ways. Can you suggest some other way of finding its area?



12. The diagonal of a quadrilateral shaped field is 24 m and the perpendiculars dropped on it from the remaining opposite vertices are 8 m and 13 m. Find the area of the field.



13. **A road roller takes 750 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 84 cm and length 1 m.**



14. **A company packages its milk powder in cylindrical container whose base has a diameter of 14 cm and height 20 cm. Company**

places a label around the surface of the container (as shown in figure). If the label is placed 2 cm from top and bottom, what is the area of the label?

15. **A suitcase with measures 80 cm x 48 cm x 24 cm is to be covered with a tarpaulin cloth. How many meters of tarpaulin of width 96 cm is required to cover 100 such suitcases?**

16. **Evaluate:**
(i) 3^{-2} (ii) $(-4)^{-2}$ (iii) $(1/2)^{-5}$

17. Simplify and express the result in power notation with a positive exponent:
(i) $-(3)^4\times(5/3)^4$ (ii) $(3^{-7}\div3^{-10})\times3^{-5}$ (iii) $2^{-3}\times(-7)^{-3}$

18. **Find the value of *m* for which $5^m \div 5^{-3} = 5^5$**

19. **Simplify the following:**

(i) $\dfrac{25\times t^{-4}}{5^{-3}\times10\times t^{-8}}$ $(t$ **(ii)** $\dfrac{3^{-5}\times10^{-5}}{5^{-7}\times6}$

20. Express the following numbers in standard form.
(i) 0.0000000000085 (iii) 6020000000000000

21. **Express the following numbers in the usual form.**
(i) 3.02×10^{-6} (ii) 1.0001×10^{9} (iii) 3.61492×10^{6}

22 **Express the number appearing in the following statements in standard form.**
(i) 1 micron is equal to 1/1000000 m.
(ii) Charge of an electron is 0.000, 000, 000, 000, 000, 000, 16 coulomb.
(iii) Size of bacteria is 0.0000005 m

23. **The value of 2^{-2} is:**
A. 4 B. ¼ C. 2 D. ½

24. The multiplicative inverse of 7^{-2} is:
A. 7^2 B. 7 C. $1/7^2$ D. 1/7

25. $2^2 \times 2^3 \times 2^4$ is equal to:
A. 2^{24} B. 2^{-5} C. 2^9 D. 2^{-9}

26. $3^{-2} \times 3^{-5}$ is equal to:
A. 3^{-7} B. 3^{-3} C. 3^{-10} D. 3^7

27. $5^4/5^2$ **is equal to:**

A. 5^6 B. 5^{-6} C. 5^{-2} D. 5^2

28. $100^0+20^0+5^0$ **is equal to**

A. 125 B. 25 C. 1/125 D. 3

29. If $(-3)^{m+1} \times (-3)^5 = (-3)^7$**, then the value of m is:**

A. 5 B. 7 C. 1 D. 3

30. **A cuboid has _____ pairs of identical faces.**

A. 2 B. 3 C. 4 D. 5

31. **All six faces of a cube are:**

A. Identical B. Different C. Circular D. Rectangular

32. A cylindrical box has ____ curved surface and ____ circular faces, which are identical.

A. One, One B. One, two C. two, one D. two, two.

33. If a cuboidal box has height, length and width as 20 cm, 15 cm and 10 cm respectively. Then its total surface area is:

A. 1100 cm^2 B. 1200 cm^2 C. 1300 cm^2 D. 1400 cm^2

34. The height of a cylinder whose radius is 7 cm and the total surface area is 968 cm^2 **is:**

A. 15 cm B. 17 cm C. 19 cm D. 21 cm

35. The height of a cuboid whose volume is 275 cm^3 **and base area is 25** cm^2 **is:**

A. 10 cm B. 11 cm C. 12 cm D. 13 cm

36. **The algebraic expression 3x+2y+6 is a:**

A. Monomial B. Binomial C. Trinomial D. None of the above

37. **A polynomial contains _____ number of terms:**

A. One B. Two C. Three D. Any

38. **If we add, 7xy + 5yz – 3zx, 4yz + 9zx – 4y and –3xz + 5x – 2xy, then the answer is:**

A. 5xy + 9yz +3zx + 5x – 4y B. 5xy – 9yz +3zx – 5x – 4y

C. 5xy + 10yz +3zx + 15x – 4y D. 5xy + 10yz +3zx + 5x – 6y

39. **If we multiply 5x and (– 4xyz), then we get:**

A. $20x^2yz$ B. $-20x^2yz$ C. x^2yz D. -2xyz

40. **The product of 4x and 0 is:**

A. 4x B. 4 C. 0 D. None of the above

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