

Year 8 Zonal 2024

1. Evaluate: $2^4 + 4^2 - 1^3$

2. Find the highest common factor of 12, 18 and 30.

3. How many minutes elapse between 20:12 today to 21:02 tomorrow?

4. Solve $5(x - 8) = 35$

5. In a class of 48 children, two- third are girls.

What fraction of the class are boys if 3 girls and 5 boys join the class? Give your answer in simplified fraction.

6. A florist buys roses at \$0.60 apiece and sells them for \$1.80 a piece. If there are no other expenses, how many roses must be sold in order to make a profit of \$300?

7. Evaluate $(-4) + (-3) + (-2) + (-1) + 0 + 1 + 2 + 3 + 4$

8. At a sale, 25% discount is offered on all marked prices. Mani bought a dress at this sale for \$30. What was the original price?

9. If it takes 2 painters 10 days to paint a building, how long (in days) will it take 1 painter?

10. In numbering the pages of a note book 31 digits are used. Calculate the number of pages in the note book.

11. How many handshakes are there when 4 people shake hands with each other?

12. The sum of two consecutive integers is 101. Find the smallest integer.

13. The **cash price** of a refrigerator is \$2000. To buy this refrigerator on hire purchase, a \$400 deposit is required, then monthly payments of \$200 each for 12 months.

How much more than the cash price will be paid if the refrigerator is bought on **hire purchase**?

14. The average of five numbers is 4. Four of them are 2, 4, 5 and 6. What is the other number?

15. A tank is $\frac{1}{4}$ full of kerosene. If 10 litres of kerosene is added then the tank is $\frac{3}{4}$ full.
What is the capacity of the tank in litres?

16. A $3\text{ cm} \times 3\text{ cm} \times 3\text{ cm}$ cube is painted and is then cut into small $1\text{ cm} \times 1\text{ cm} \times 1\text{ cm}$ cube.
How many small cubes have 2 painted faces?



17. Let A = fifth triangular number

B = fifth square number

C = first prime number

Find $A + B + C$

18. Tomasi travelled 32 km from his home to a town at an average speed of 60 km/h. He arrived at the town at 9.08am. At what time did he leave home? Mention am or pm in your answer.

19. Simplify $\frac{x}{3} - \frac{x}{4}$

20. A soccer team has won 9 games out of 12 played. How many of the remaining 8 games must it win to have an 80% win record for the season?
