

8. Sequences:

- Calculate the next three terms for the sequence 4, 7, 10, 13, 16, ...
- Calculate the next three terms for the sequence -3, -9, -15, -21, -27, ...
- Calculate the next 3 terms of the sequence 5, 3, 1, -1, -3, ...
- By finding the common difference, state the next 3 terms of the sequence -37, -31, -25, -19, -13, ...
- Calculate the sum of the 1st, 10th, 100th, and 1000th term of the sequence $4n-25$

9. An arithmetic sequence means you are adding some number to each term to get to the next term. Find d and a_1



10. If a car dealership gives a 5% discount on a car, the dealership will make a \$5250 profit on the car. If, instead it will give a 25% discount, the dealership will lose \$1750. How much did the dealership pay for the car (in dollars)?

11. Gavin bought a pair of running shoes on sale for \$98. This was 30% less than the usual price. What was the usual price?

12. If a price is reduced by 20% and then increased by 20%, what percent is the overall change?

13. A computer can process some data in 3 hours. If it works together with another computer in the office, they can process the same data in only 1 hour. How long would the second computer take to process this data if it didn't work with the first computer?

14. Use the exponent rules to simplify as much as possible. State the rules or properties used at each step.

$$\frac{5^2 \cdot 24^2 \cdot 10^0}{8^2 \cdot 15 \cdot 3^2}$$

15. Use the identity $a^2 - b^2 = (a-b)(a+b)$ to give an explanation on how to find 702×698 knowing what 700^2 is.