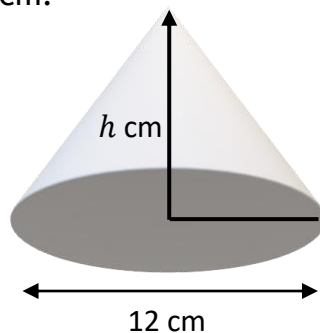


8. Change the subject of the formula below to H .

$$G = \sqrt{PH - 4Q}$$

9. Vector p has components $\begin{pmatrix} 4 \\ 0 \\ -3 \end{pmatrix}$. Calculate $|2p|$, the magnitude of vector $2p$.
10. The cone below has a diameter of 12cm and a volume of 980 cm^3 . Calculate its height, h cm.



- 11a Factorise $x^2 - 3x - 18$

- 11b. Hence, simplify $\frac{x^2-9}{x^2-3x-18}$

12. A school roll is currently 924. It is expected to increase at a rate of 4% per year for the next 3 years.
Work out the expected roll in 3 years time.

13. Evaluate $\frac{5}{8} \div 3\frac{3}{4}$

14. Before exercise, 2 groups of athletes had their resting heart rates measured. The results, in beats per minute, for group 1 are recorded below.

58. 59. 61. 57. 54. 59

- a) Calculate the mean and standard deviation of this data.
- b) Group 2 had a mean of 56 beats per minute and a standard deviation of 2.45.
Make 2 valid comparisons between the heart rates of each group.