

Immanuel Lutheran College

S.5 Mathematics

1. In figure 1, find the volume of the solid.
2. In figure 2, CDE is a straight line. Find x and y .
3. In figure 3, find the value of x and y .
4. Simplify $\frac{a^3 a^4}{b^{-2}}$, giving the answer in positive index.
5. Make x the subject of the formula $b = 2x + (1 - x)a$.
6. In figure 4, A, B, C, D lie on the circle, AC and BD intersect at E.
 - a) Which triangle is similar to $\triangle ECD$?
 - b) Find the value of y .
7. The marked price of a toy is \$29. If it is sold at a discount of 20%.
 - a) Find the selling price of the toy.
 - b) If the cost of the toy is \$18, find the profit percentage.
8. If $f(x) = x^3 + 2x^2 - 5x - 6$.
 - a) Show that $(x-2)$ is a factor of $f(x)$.
 - b) Factorize $f(x)$.

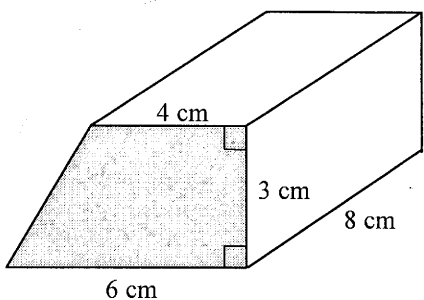


fig. 1

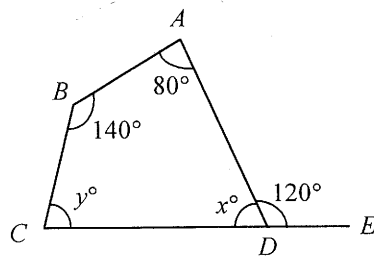


fig 2

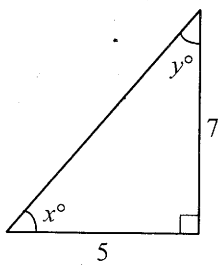


fig 3.

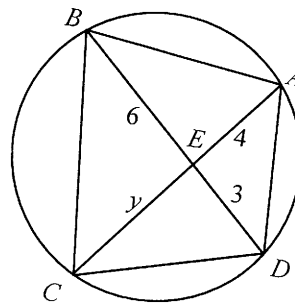


fig 4