

If  $(x - 1)$  is a factor of  $x^4 - ax^3 + 30x^2 - 56x + 33$ . Find the value of  $a$ .

**Solution:**

$$f(x) = x^4 - ax^3 + 30x^2 - 56x + 33$$

So  $f(1) = 0$  then

$$1 - a + 30 - 56 + 33 = 0 \rightarrow a = 8$$

**Answer:**  $a = 8$ .