



Squares and Square Roots Ex 3.4 Q3

Answer :

The prime factorisation of 180:

$$180 = 2 \times 2 \times 3 \times 3 \times 5$$

Grouping the factors into pairs of equal factors, we get:

$$180 = (2 \times 2) \times (3 \times 3) \times 5$$

The factor, 5 does not have a pair. Therefore, we must multiply 180 by 5 to make a perfect square. The new number is:

$$(2 \times 2) \times (3 \times 3) \times (5 \times 5) = 900$$

Taking one factor from each pair on the LHS, the square root of the new number is $2 \times 3 \times 5$, which is equal to 30.

Squares and Square Roots Ex 3.4 Q4

Answer :

The prime factorisation of 147:

$$147 = 3 \times 7 \times 7$$

Grouping the factors into pairs of equal factors, we get:

$$147 = 3 \times (7 \times 7)$$

The factor, 3 does not have a pair. Therefore, we must multiply 147 by 3 to make a perfect square. The new number is:

$$(3 \times 3) \times (7 \times 7) = 441$$

Taking one factor from each pair on the LHS, the square root of the new number is 3×7 , which is equal to 21.

Squares and Square Roots Ex 3.4 Q5

Answer :

The prime factorisation of 3645:

$$3645 = 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 5$$

Grouping the factors into pairs of equal factors, we get:

$$3645 = (3 \times 3) \times (3 \times 3) \times (3 \times 3) \times 5$$

The factor, 5 does not have a pair. Therefore, we must divide 3645 by 5 to make a perfect square. The new number is:

$$(3 \times 3) \times (3 \times 3) \times (3 \times 3) = 729$$

Taking one factor from each pair on the LHS, the square root of the new number is $3 \times 3 \times 3$, which is equal to 27.

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