

EXERCISE 4.4

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1. Write each of the following rational numbers in the standard form:

(i) $(2/10)$

(ii) $(-8/36)$

(iii) $(4/-16)$

(iv) $(-15/-35)$

(v) $(299/-161)$

(vi) $(-63/-210)$

(vii) $(68/-119)$

(viii) $(-195/275)$

Solution:

(i) Given $(2/10)$

We know that HCF of 2 and 10 is 2

Now dividing the numerator and denominator by HCF i.e. 2, we get:

$$(2/10) \div (2/2) = (1/5)$$

Therefore $(1/5)$ is the standard form of given number

(ii) Given $(-8/36)$

We know that HCF of 8 and 36 is 4

Now dividing the numerator and denominator by HCF i.e. 4, we get:

$$(-8/36) \div (4/4) = (-2/9)$$

Therefore $(-2/9)$ is the standard form of given number

(iii) Given $(4/-16)$

Here denominator is negative so we have multiply both numerator and denominator by -1

$$(4/-16) \times (-1/-1) = (-4/16)$$

We know that HCF of 4 and 16 is 4

Now dividing the numerator and denominator by HCF i.e. 4, we get:

$$(-4/16) \div (4/4) = (-1/4)$$

Therefore $(-1/4)$ is the standard form of given number

(iv) Given $(-15/-35)$

Here denominator is negative so we have multiply both numerator and denominator by -1

$$(-15/-35) \times (-1/-1) = (15/35)$$

We know that HCF of 15 and 35 is 5

Now dividing the numerator and denominator by HCF i.e. 5, we get:

$$(15/35) \div (5/5) = (3/7)$$

Therefore $(3/7)$ is the standard form of given number

(v) Given $(299/-161)$

Here denominator is negative so we have multiply both numerator and denominator by -1

$$(299/-161) \times (-1/-1) = (-299/161)$$

The HCF of 299 and 161 is 23

Now dividing the numerator and denominator by HCF i.e. 23, we get:

$$(-299/161) \div (23/23) = (-13/7)$$

Therefore $(-13/7)$ is the standard form of given number

(vi) Given $(-63/-210)$

The HCF of 63 and 210 is 21

Now dividing the numerator and denominator by HCF i.e. 21, we get:

$$(-63/-210) \div (21/21) = (-3/-10) = (3/10)$$

Therefore $(3/10)$ is the standard form of given number

(vii) Given $(68/-119)$

Here denominator is negative so we have multiply both numerator and denominator by -1

$$(68/-119) \times (-1/-1) = (-68/119)$$

The HCF of 68 and 119 is 17

Now dividing the numerator and denominator by HCF i.e. 17, we get:

$$(-68/119) \div (17/17) = (-4/7)$$

Therefore $(-4/7)$ is the standard form of given number

(viii) Given $(-195/275)$

The HCF of 195 and 275 is 5

Now dividing the numerator and denominator by HCF i.e. 5, we get:

$$(-195/275) \div (5/5) = (-39/55)$$

Therefore $(-39/55)$ is the standard form of given number