EXERCISE 4.4 PAGE NO: 4.15

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) ÷ (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) ÷ (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) × (-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) ÷ (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) × (-1/-1) = (15/35)
We know that HCF of 15 and 35 is 4
Now dividing the numerator and denominator by HCF i.e. 5, we get:
(15/35) ÷ (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) × (-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) ÷ (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) ÷ (21/21) = (-3/-10) = (3/10)
Therefore (3/10) is the standard form of given number

(vi) Given (68/-119)
Here denominator is negative so we have multiply both numerator and denominator by -1
(68/-119) × (-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) ÷ (17/17) = (-4/7)
Therefore (-4/7) is the standard form of given number

(viii) Given (-195/275)
The HCF of 195 and 257 is 5
Now dividing the numerator and denominator by HCF i.e. 5, we get:
(-165/275) ÷ (5/5) = (-39/55)
Therefore (-39/55) is the standard form of given number