

## Exercise 1.2

1. Write the following rational numbers in decimal form and say what kind of decimal expansion each has:

(i)  $\frac{54}{100}$

(ii)  $\frac{7}{64}$

(iii)  $\frac{31}{32}$

(iv)  $\frac{2}{3}$

(v)  $\frac{1}{9}$

(vi)  $\frac{7}{15}$

(vii)  $\frac{3}{11}$

(viii)  $\frac{4}{23}$

2. Express the following rational numbers in the form  $\frac{p}{q}$ , where  $p$  and  $q$  are integers and  $q \neq 0$ .

(i)  $0.\overline{3}$

(ii)  $0.1\overline{8}$

(iii)  $0.2\overline{7}$

(iv)  $3.\overline{3}$

(v)  $.003\overline{2}$

(vi)  $2.\overline{317}$

(vii)  $2.\overline{91}$

(viii)  $15.7\overline{12}$  [CBSE 2010]

(ix)  $0.\overline{47}$  [CBSE 2010]

(x)  $32.12\overline{35}$  [CBSE 2011]

(xi)  $0.24\overline{5}$  [CBSE 2010, 2011]

3. Express  $2.3\overline{6} + 0.2\overline{3}$  in the form  $\frac{p}{q}$  where  $p$  and  $q$  are integers and  $q \neq 0$ .

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4. Express  $0.6 + 0.\overline{7} + 0.4\overline{7}$  in the form  $\frac{p}{q}$ , where  $p$  and  $q$  are integers and  $q \neq 0$ .

[NCERT Exemplar] [CBSE 2011]

5. You know that  $\frac{1}{11} = 0.\overline{09}$ . Can you predict what the decimal expansions of  $\frac{2}{11}, \frac{3}{11}, \frac{4}{11}, \frac{5}{11}, \frac{6}{11}$  are, without actually doing the long division? If so, how?

## Answers

1. (i) 0.54 (terminating decimal)  
(ii) 0.109375 (terminating decimal)  
(iii) 0.96875 (terminating decimal)  
(iv) 0.666... (non-terminating recurring decimal)  
(v) 0.111... (non-terminating recurring decimal)  
(vi) 0.4666... (non-terminating recurring decimal)  
(vii) 0.272727... (non-terminating recurring decimal)  
(viii)  $0.\overline{17391304347826086}$  (non-terminating recurring decimal)

2. (i)  $\frac{1}{3}$  (ii)  $\frac{2}{11}$  (iii)  $\frac{3}{11}$  (iv)  $\frac{10}{3}$   
(v)  $\frac{8}{2475}$  (vi)  $\frac{2315}{999}$  (vii)  $\frac{289}{99}$  (viii)  $\frac{15555}{990}$   
(ix)  $\frac{47}{99}$  (x)  $\frac{318023}{9900}$  (xi)  $\frac{243}{990}$

3.  $\frac{2573}{990}$

4.  $\frac{167}{90}$

5.  $0.\overline{18}$ ,  $0.\overline{27}$ ,  $0.\overline{36}$ ,  $0.\overline{45}$ ,  $0.\overline{54}$

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