

2

RATIONAL NUMBERS

Q1. Find ten rational numbers between $\frac{2}{5}$ and $\frac{5}{7}$ with denominator 35.

Answer: _____

Q2. Find a rational number between $\frac{5}{6}$ and $\frac{7}{8}$ such that when it is represented on the number line, it is equidistant from both the given rational numbers.

Answer: _____

Q3. Arrange the following in ascending order.

a. $-\frac{1}{2}, \frac{3}{-16}, \frac{11}{24}, \frac{5}{12}$

Answer: _____

b. $6\sqrt{2}, 4\sqrt{5}, \sqrt{20}, 3\sqrt{2}$

Answer: _____

Q4. Add $\frac{1}{6}$ and $\frac{4}{6}$ on the number line given below.



Q5. Match the equivalent fractions:

$\frac{11}{12}$	$\frac{-30}{35}$
$\frac{-121}{-144}$	$\frac{25}{-35}$
$\frac{6}{-7}$	$\frac{121}{144}$
$\frac{-5}{7}$	$\frac{121}{132}$

Q6. Simplify the following and tick whether each of them will lie to the right or left of zero on the number line:

Simplify	Solution	Left/Right of zero on the number line
a. $\frac{14}{15} \times \frac{24}{32} \times \frac{60}{28}$	_____	Left/ Right
b. $\frac{6}{-18} \times \frac{-7}{24} \times \frac{-72}{56}$	_____	Left/ Right

Q7. The cost of 13 erasers is ₹ $\frac{390}{4}$. Find the cost of one eraser.

Answer: _____

Q8. Fill in the blanks:

a. $\frac{33}{35} \times \text{_____} = \frac{3}{5}$

b. $\frac{24}{25} \div \text{_____} = 1\frac{1}{5}$

c. $2\frac{1}{4} + 1\frac{1}{2} = \text{_____}$

d. $\text{_____} - \frac{1}{2} = 1\frac{5}{8}$

Q9. Simplify:

a. $3\sqrt{5}(\sqrt{5} - \sqrt{45})$

Answer: _____

b. $(\sqrt{5} + \sqrt{3})(2\sqrt{15} - 3\sqrt{36})$

Answer: _____

Q10. Simplify by rationalising the denominator of the following irrational numbers.

a. $\frac{7 + \sqrt{5}}{\sqrt{3}}$

Answer: _____

b. $\frac{2 + \sqrt{3}}{2 - \sqrt{3}} + \frac{2 - \sqrt{3}}{2 + \sqrt{3}}$

Answer: _____

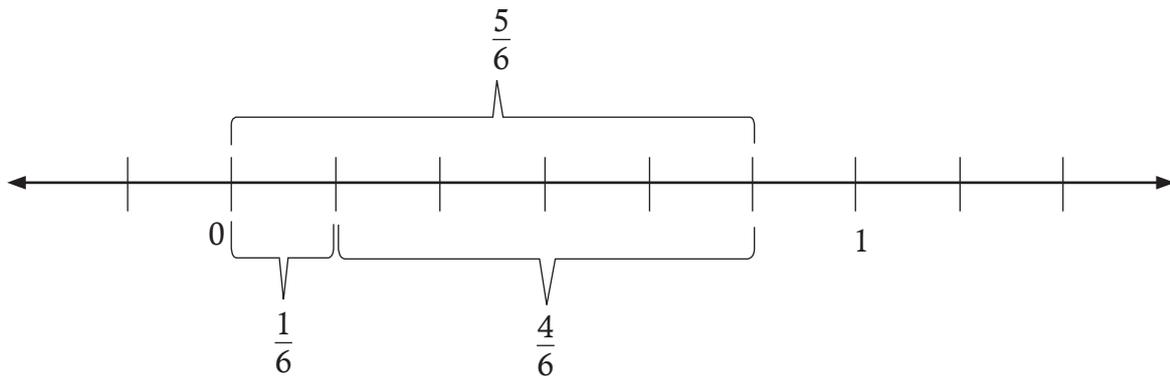
Answers

1. $\frac{15}{25}, \frac{16}{25}, \frac{17}{25}, \frac{18}{25}, \frac{19}{25}, \frac{20}{25}, \frac{21}{25}, \frac{22}{25}, \frac{23}{25}, \frac{24}{25}$

2. $\frac{41}{48}$

3. a. $-\frac{1}{2} < \frac{3}{-16} < \frac{5}{12} < \frac{11}{24}$; b. $3\sqrt{2} < \sqrt{20} < 6\sqrt{2} < 4\sqrt{5}$

4.



5.

$\frac{11}{12}$	$\frac{121}{132}$
$\frac{-121}{-144}$	$\frac{121}{144}$
$\frac{6}{-7}$	$\frac{-30}{35}$
$\frac{-5}{7}$	$\frac{25}{-35}$

6.

Simplify	Solution	Left/Right of zero on the number line
a. $\frac{14}{15} \times \frac{24}{32} \times \frac{60}{28}$	$1\frac{1}{2}$	Right
b. $\frac{6}{-18} \times \frac{-7}{24} \times \frac{-72}{56}$	$-\frac{1}{8}$	Left

7. ₹ $7\frac{1}{2}$
8. a. $\frac{7}{11}$; b. $\frac{4}{5}$; c. $3\frac{3}{4}$; d. $2\frac{1}{8}$
9. a. -30 ; b. $-8\sqrt{3} - 12\sqrt{5}$
10. a. $\frac{1}{3}(7\sqrt{3} + \sqrt{15})$; b. 14