5 Rational Numbers

Q1. All fractions are rational numbers but all rational numbers are not fractions. Explain with the help of an example of a rational number which is not a fraction.

Answer: _____ is a rational number but not a fraction because
_____.

Q2. State True or False:

a. All rational numbers cannot be represented on the number line, e.g.: $\dfrac{4}{-7}$. _____

b. Zero is a rational number. _____

c. All natural numbers are rational numbers. _____

d. If an integer is divided by another non-zero integer the result is always an integer. _____

Q3. From the following options tick the rational number that has the same standard form as $\dfrac{-4}{28}$:

a. $\dfrac{12}{84}$

b. $\dfrac{20}{-140}$

c. $\dfrac{-1}{-7}$

Q4. Find a rational number equivalent to $\dfrac{3}{5}$:

a. with numerator 15: $\dfrac{\square}{\square}$

b. with denominator 15: $\dfrac{\square}{\square}$

Q5. Represent the following rational numbers on a number line.

$-\dfrac{1}{4}$ and $\dfrac{1}{4}$

Q6. Match the rational numbers with their decimal equivalent:

$20\dfrac{5}{8}$	-0.32
$3\dfrac{7}{20}$	-0.175
$-\dfrac{8}{25}$	20.625
$-\dfrac{7}{40}$	3.35

Q7. Fill in the blanks:

a. $\dfrac{1}{4} + \left(\dfrac{1}{2} + \dfrac{1}{13}\right) = \left(\dfrac{1}{2} + \dfrac{1}{4}\right) + \dfrac{\Box}{\Box}$

b. $\dfrac{2}{13} \times \dfrac{65}{8} = \dfrac{65}{8} \times \dfrac{\Box}{\Box}$

c. $-\dfrac{9}{5} \times \underline{\hspace{2cm}} = -\dfrac{9}{5}$

d. $\dfrac{2}{3} \times \dfrac{1}{4} = \dfrac{2}{3} \div \underline{\hspace{2cm}}$

Q8. Simplify:

a. $\left(-\dfrac{12}{3} \times \dfrac{6}{40}\right) - \left(\dfrac{3}{10} \times \dfrac{5}{15}\right)$

Answer: _____

b. $\left(\dfrac{50}{7} \times \dfrac{49}{10}\right) \div \left(\dfrac{30}{11} \times \dfrac{44}{2}\right)$

Answer: _____

Q9. What number should be added to $-\dfrac{1}{16}$ to get $\dfrac{3}{4}$?
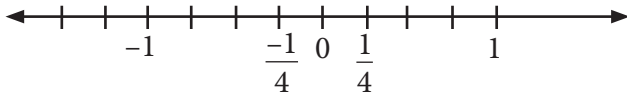
Answer: _____

Q10. The daily consumption of milk in a house is $2\dfrac{3}{4}$ litres. Find the quantity of milk consumed by the family in 30 days.

Answer: _____

1. 0.97; it is a decimal number.

2. a. False; b. True; c. True; d. False

3. (b)

4. a. $\dfrac{15}{25}$; b. $\dfrac{9}{15}$

5.

6.

$20\dfrac{5}{8}$	20.625
$3\dfrac{7}{20}$	3.35
$-\dfrac{8}{25}$	−0.32
$-\dfrac{7}{40}$	−0.175

7. a. $\dfrac{1}{13}$; b. $\dfrac{2}{13}$; c. 1; d. 4

8. a. $-\dfrac{7}{10}$; b. $\dfrac{7}{12}$

9. $\dfrac{13}{16}$

10. $82\dfrac{1}{2}$ litres