

$$8. \frac{1}{2} \left(\frac{1}{5} + \frac{1}{3} \right)$$

$$= \frac{1}{2} \left(\frac{3+5}{15} \right) = \frac{1}{2} \times \frac{8}{15} = \frac{4}{15}$$

$$= \frac{1}{2} \left(\frac{1}{5} + \frac{4}{15} \right) = \frac{1}{2} \left(\frac{3+4}{15} \right) = \frac{1}{2} \times \frac{7}{15} = \frac{7}{30}$$

$$\frac{1}{2} \left(\frac{4}{15} + \frac{1}{3} \right)$$

$$\frac{1}{2} \left(\frac{4+5}{15} \right) = \frac{1}{2} \times \frac{9}{15} = \frac{3}{10}$$

Three rational between $\frac{1}{5}$ and $\frac{1}{3}$ are $\frac{4}{15}$, $\frac{7}{30}$ and $\frac{3}{10}$

9. (i) ~~Three rational~~
(ii) $\frac{1}{4}$ and $\frac{1}{3}$

$$\frac{1 \times 30}{4 \times 30} = \frac{30}{120}$$

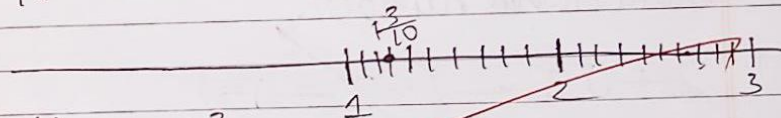
$$\frac{1 \times 40}{3 \times 40} = \frac{40}{120}$$

$$\frac{31}{120}, \frac{32}{120}, \frac{33}{120}, \frac{34}{120}, \frac{35}{120}, \frac{36}{120}, \frac{37}{120}, \frac{38}{120}$$

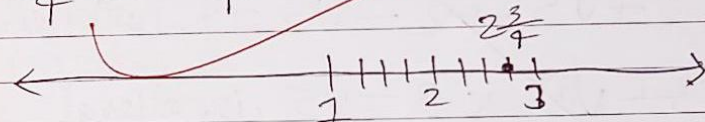
are eight rational which comes between $\frac{1}{4}$ and $\frac{1}{3}$

10.

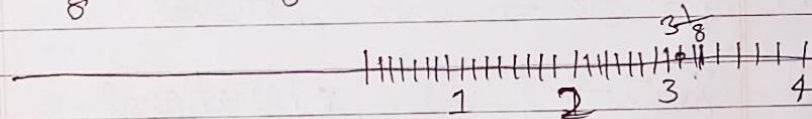
$$(i) \frac{13}{10} = 1 \frac{3}{10}$$



$$(ii) \frac{11}{4} = 2 \frac{3}{4}$$



$$(iii) \frac{25}{8} = 3 \frac{1}{8}$$



Ex 1.1

1.
 (i) 7, 2.
 (ii) 0, 7, 2
 (iii) -8, 0, 2, 7
 (iv) $7, \frac{3}{2}, -\frac{9}{5}, -8, 0, 2, \frac{1}{4}$

2.

1.	4.
(i) -1	(i) infinite
(ii) $\frac{7}{3}$	(ii) natural
(iii) $\frac{5}{8}$	(iii) whole
(iv) 24	(iv) integers
(v) 0	(v) -1 and 1
(vi) 0	(vi) point

3.

(i) F	$\frac{1}{2}(\frac{3}{5} + \frac{5}{7})$
(ii) F	
(iii) F	$\frac{1}{2}(\frac{21+18}{35}) = \frac{1}{2} \times \frac{39}{35} = \frac{39}{70}$
(iv) T	
(v) F	
(vi) T	6. 5 rational numbers between 1 and 2 are 1.1, 1.2, 1.3, 1.4, 1.5.

7. ~~$\frac{1}{2}(\frac{1}{2} \text{ and } \frac{3}{4})$~~

~~$\frac{1}{2}(\frac{1}{2} + \frac{3}{4})$~~

~~$= \frac{1}{2}(\frac{2+3}{4})$~~

~~$= \frac{1}{2} \times \frac{5}{4} = \frac{5}{8}$~~

~~$= \frac{1}{2}(\frac{1}{2} + \frac{5}{20})$~~

~~$\frac{1}{2}(\frac{10+5}{20}) = \frac{1}{2} \times \frac{15}{20} = \frac{15}{40}$~~

~~$\frac{1}{2} < \frac{15}{40} < \frac{1}{4} < \frac{3}{4}$~~

$\frac{15}{40}$ and $\frac{1}{4}$ are two rational numbers between $\frac{1}{2}$ and $\frac{3}{4}$.