



## Grade 8

## NUMBER SENSE AND NUMERATION: FRACTIONS AND RATIONALS

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Answ	ers:							
1.	a.	$\frac{3}{8}$	b.	$\frac{1}{2}$	c.	$\frac{11}{12}$		
2.	a.	$5\frac{2}{3}$	b.	$1\frac{3}{4}$				
3.	a.	$3\frac{1}{4}$	b.	$1\frac{1}{6}$	c.	$-1\frac{1}{2}$		
4.	a.	$\frac{23}{4}$	b.	$\frac{23}{9}$	c.	$-\frac{7}{5}$		
5.	a.	<	b.	>	c.	<	d.	>
6.	$-\frac{7}{8}$	$\frac{7}{3}, -\frac{1}{2}, \frac{7}{12}, 1\frac{1}{4}$	-					
7.	9							
8.		$\frac{25}{24}$ $-\frac{1}{3}$		$\frac{11}{15}$ $\frac{25}{9}$		$\frac{11}{20}$ $\frac{17}{20}$		$\frac{17}{15}$ $\frac{23}{35}$
9.		$\frac{6}{35}$ $\frac{10}{7}$		$\frac{21}{5}$ $\frac{8}{9}$		$\frac{112}{\frac{1}{3}}$		$\frac{371}{40}$ $\frac{84}{25}$





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10.

$-\frac{1}{3}$	$\frac{1}{2}$	$-\frac{2}{3}$
$-\frac{1}{2}$	$-\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{3}$	$-\frac{5}{6}$	0

11. a. 
$$\frac{3}{4}, \frac{3}{2}, \frac{9}{10}, \frac{1}{2}$$
 [multiply each given quantity by  $\frac{3}{2}$ ] b.  $\frac{3}{8}, \frac{3}{4}, \frac{9}{20}, \frac{1}{4}$ 

12. a.  $\frac{2}{3}$  b.  $6\frac{2}{5}$  c.  $3\frac{1}{9}$  d.  $\frac{2}{3}$ e.  $7\frac{7}{9}$  f.  $\frac{13}{20}$  g.  $\frac{13}{32}$  h.  $16\frac{2}{5}$ 

13.  $(4444 - 444) \div 4 \times 4444 \div 4444$  Other answers are possible.

14. Lesley's sister and her mom receive  $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$  of the pizza. Her father receives  $\frac{1}{3}$  of the remaining  $\frac{1}{2}$  which equals  $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$  of the pizza. This leaves Matt with  $1 - \frac{1}{2} - \frac{1}{6} = \frac{6 - 3 - 1}{6} = \frac{2}{6} = \frac{1}{3}$  of the pizza.





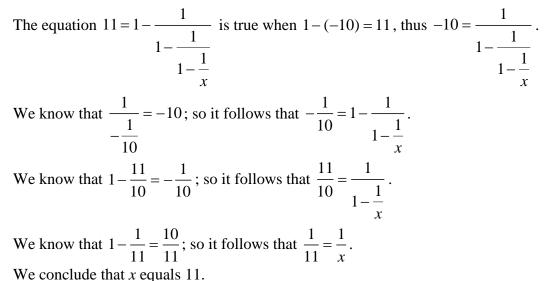
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15. 
$$1 + \frac{1}{1 + \frac{1}{2}} = 1 + \frac{1}{\frac{3}{2}} = 1 + \frac{2}{3} = \frac{5}{3}$$
 Therefore, the reciprocal is  $\frac{3}{5}$ .

#### 16. 11



#### Alternatively,

The following algebraic solution could be given after the study of solving linear equations.

$$11 = 1 - \frac{1}{1 - \frac{1}{x}}$$

$$11 = 1 - \frac{x - 1}{-1}$$

$$11 = 1 - \frac{1}{1 - \frac{x}{x - 1}}$$

$$11 = 1 - \frac{1}{\frac{x - 1}{x - 1} - \frac{x}{x - 1}}$$

$$11 = 1 - \frac{1}{\frac{x - 1}{x - 1} - \frac{x}{x - 1}}$$