

1. Evaluate $5 - 3(-7 - (-4 + 1))^2$

$$= 5 - 3(-7 - (-3))^2$$

$$= 5 - 3(-7 + 3)^2$$

$$= 5 - 3(-4)^2$$

$$= 5 - 3(16)$$

$$= 5 - 48$$

$$= -43$$

$$\{-43\}$$

2. $\frac{y^2 + \sqrt{x+7}}{2y}$ when $x = 9$ and $y = 3$

$$\frac{(3)^2 + \sqrt{(9)+7}}{2(3)} = \frac{9 + \sqrt{16}}{6} = \frac{9+4}{6} = \frac{5}{6}, \frac{13}{6}$$

$$\left\{ \frac{5}{6}, \frac{13}{6} \right\}$$

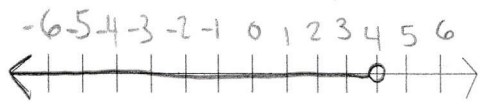
3. List the elements of the set $\{x \mid x \text{ is a natural number between 7 and 14}\}$.

$$\{8, 9, 10, 11, 12, 13\}$$

4. Evaluate: $-|-7| = -(7) = -7$

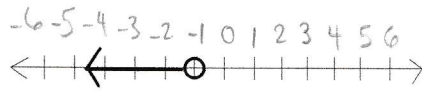
$$\{-7\}$$

5. Graph the real numbers less than 4



-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

6. Write the Inequality for a given solution



-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

$$\{x < -1\}$$

7. Simplify each. Leave your answer as an improper fraction.

a)

$$\frac{42}{12} = \frac{6 \cdot 7}{6 \cdot 2} = \frac{7}{2}$$

$$\left\{ \frac{7}{2} \right\}$$

b)

$$\frac{25}{20} = \frac{5 \cdot 5}{5 \cdot 4} = \frac{5}{4}$$

$$\left\{ \frac{5}{4} \right\}$$

8. Evaluate : a) $\frac{2}{7} + \frac{5}{3}$ b) $\frac{-5}{8} - \frac{9}{2}$ c) $\frac{2}{5} \cdot \frac{11}{-4}$ d) $\frac{2}{11} \div \frac{5}{4}$

$$a) \frac{2}{7} + \frac{5}{3} = \frac{3 \cdot 2}{3 \cdot 7} + \frac{5 \cdot 7}{3 \cdot 7} = \frac{6}{21} + \frac{35}{21} = \frac{6+35}{21} = \frac{41}{21}$$

$$\left\{ \frac{41}{21} \right\}$$

$$b) \frac{-5}{8} - \frac{9}{2} = \frac{-5}{8} - \frac{9(4)}{2(4)} = \frac{-5}{8} - \frac{36}{8} = \frac{-5-36}{8} = \frac{-41}{8}$$

$$\left\{ -\frac{41}{8} \right\}$$

$$c) \frac{2}{5} \cdot \frac{11}{-4} = \frac{2 \cdot 11}{5 \cdot (-4)} = \frac{22}{-20} = \frac{2 \cdot 11}{2 \cdot (-10)} = \frac{11}{-10}$$

$$\left\{ -\frac{11}{10} \right\}$$

$$d) \frac{2}{11} \div \frac{5}{4} = \frac{2}{11} \cdot \frac{4}{5} = \frac{2 \cdot 4}{11 \cdot 5} = \frac{8}{55}$$

$$\left\{ \frac{8}{55} \right\}$$