

Solving Inequality Using Multiplication or Division

1) $\frac{v}{-2} < -8$

2) $8b > 32$

3) $3r \geq 21$

4) $-6s \leq 45$

5) $4w \leq 68$

6) $-16y > 48$

7) $6q > -84$

$$8) 12x \geq -60$$

$$9) 4m < -60$$

$$10) -16x \geq 96$$

$$11) \frac{p}{7} > 6$$

$$12) \frac{t}{4} \leq -9$$

$$13) 5a < -35$$

$$14) \frac{u}{6} \geq 3$$

$$15) \quad \frac{a}{2} < -9$$

$$16) \quad \frac{d}{-11} \leq 6$$

$$17) \quad \frac{b}{7} > 7$$

$$18) \quad \frac{v}{5} > -2$$

$$19) \quad \frac{h}{-6} \leq 13$$

$$20) \quad \frac{n}{-3} \geq -5$$

$$21) \quad \frac{t}{9} \leq -22$$

$$22) \quad \frac{c}{8} \geq 3$$

$$23) \quad 5x \geq 45$$

$$24) \quad \frac{y}{4} \leq 8$$

$$25) \quad \frac{z}{-3} < 6$$

$$26) \quad 7x > -35$$

$$27) \quad 3p > -18$$

Answer Key

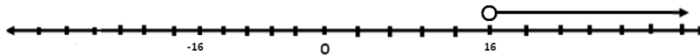
Solving inequality using multiplication or division

1) $\frac{v}{-2} < -8$

$$-2 \times \frac{v}{-2} > -8 \quad \text{multiply both sides by } -2$$

$$v > 16 \quad \text{simplification}$$

solution: $v > 16$

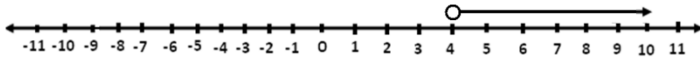


2) $8b > 32$

$$\frac{8b}{8} > \frac{32}{8} \quad \text{divide both sides by } 8$$

$$b > 4 \quad \text{simplification}$$

solution: $b > 4$

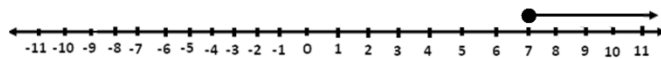


3) $3r \geq 21$

$$\frac{3r}{3} \geq \frac{21}{3} \quad \text{divide both sides by } 3$$

$$r \geq 7 \quad \text{simplification}$$

solution: $r \geq 7$

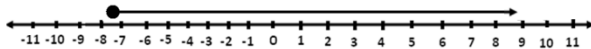


4) $-6s \leq 45$

$$\frac{-6s}{-6} \geq \frac{45}{-6} \quad \text{divide both sides by } -6$$

$$s \geq \frac{-15}{2} \quad \text{simplification}$$

solution: $s \geq \frac{-15}{2}$

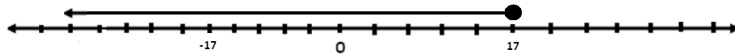


5) $4w \leq 68$

$$\frac{4w}{4} \leq \frac{68}{4} \quad \text{divide both sides by } 4$$

$$w \leq 17 \quad \text{simplification}$$

solution: $w \leq 17$

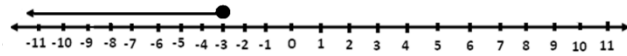


6) $-16y > 48$

$$\frac{-16y}{-16} < \frac{48}{-16} \quad \text{divide both sides by } -16$$

$$y < -3 \quad \text{simplification}$$

solution: $y < -3$

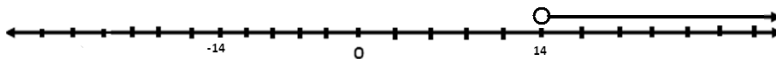


7) $6q > -84$

$$\frac{6q}{6} > \frac{-84}{6} \quad \text{divide both sides by } 6$$

$$q > -14 \quad \text{simplification}$$

solution: $q > -14$

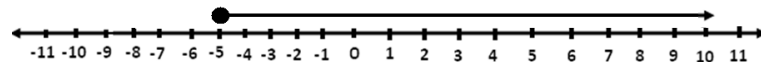


8) $12x \geq -60$

$$\frac{12x}{12} \geq \frac{-60}{12} \quad \text{divide both sides by } 12$$

$$x \geq -5 \quad \text{simplification}$$

solution: $x \geq -5$

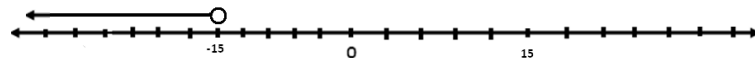


9) $4m < -60$

$$\frac{4m}{4} < \frac{-60}{4} \quad \text{divide both sides by } 4$$

$$m < -15 \quad \text{simplification}$$

solution: $m < -15$



10) $-16x \geq 96$

$$\frac{-16x}{-16} \leq \frac{96}{-16} \quad \text{divide both sides by } -16$$

$$x \leq -6 \quad \text{simplification}$$

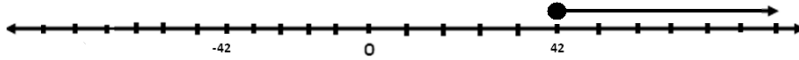
solution: $x \leq -6$

$$11) \quad \frac{p}{7} > 6$$

$$7 \times \frac{p}{7} > 7 \times 6 \quad \text{multiply both sides by 7}$$

$$p > 42 \quad \text{simplification}$$

$$\text{solution: } p > 42$$

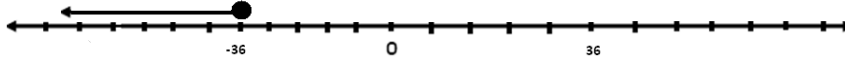


$$12) \quad \frac{t}{4} \leq -9$$

$$4 \times \frac{t}{4} \leq -9 \times 4 \quad \text{multiply both sides by 4}$$

$$t \leq -36 \quad \text{simplification}$$

$$\text{solution: } t \leq -36$$

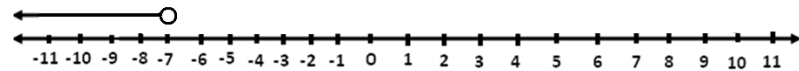


$$13) \quad 5a < -35$$

$$\frac{5a}{5} < \frac{-35}{5} \quad \text{divide both sides by 5}$$

$$a < -7 \quad \text{simplification}$$

$$\text{solution: } a < -7$$

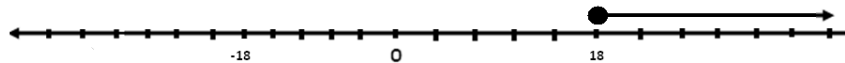


$$14) \quad \frac{u}{6} \geq 3$$

$$6 \times \frac{u}{6} \geq 6 \times 3 \quad \text{multiply both sides by 6}$$

$$u \geq 18 \quad \text{simplification}$$

$$\text{solution: } u \geq 18$$

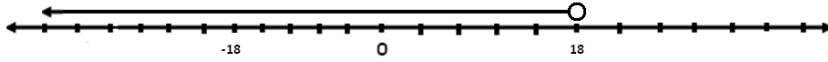


$$15) \quad \frac{a}{2} < -9$$

$$2 \times \frac{a}{2} < -9 \times 2 \quad \text{multiply both sides by 2}$$

$$a < -18 \quad \text{simplification}$$

$$\text{solution: } a < -18$$

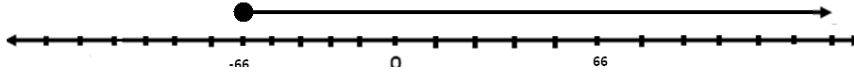


$$16) \quad \frac{d}{-11} \leq 6$$

$$-11 \times \frac{d}{-11} \geq -11 \times 6 \quad \text{multiply both sides by } -11$$

$$d \geq -66 \quad \text{simplification}$$

$$\text{solution: } d \geq -66$$

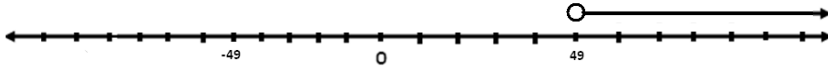


$$17) \quad \frac{b}{7} > 7$$

$$7 \times \frac{b}{7} > 7 \times 7 \quad \text{multiply both sides by } 7$$

$$b > 49 \quad \text{simplification}$$

$$\text{solution: } b > 49$$

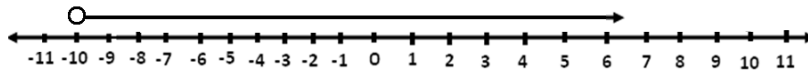


$$18) \quad \frac{v}{5} > -2$$

$$5 \times \frac{v}{5} > -2 \times 5 \quad \text{multiply both sides by } 5$$

$$v > -10 \quad \text{simplification}$$

$$\text{solution: } v > -10$$

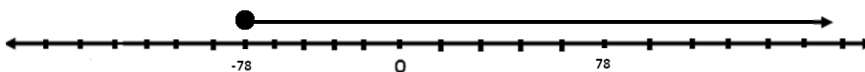


$$19) \quad \frac{h}{-6} \leq 13$$

$$-6 \times \frac{h}{-6} \geq -6 \times 13 \quad \text{multiply both sides by } -6$$

$$h \geq -78 \quad \text{simplification}$$

$$\text{solution: } h \geq -78$$

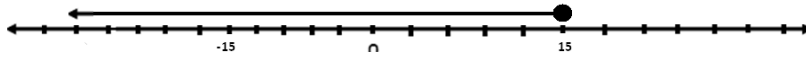


$$20) \quad \frac{n}{-3} \geq -5$$

$$-3 \times \frac{n}{-3} \leq -3 \times -5 \quad \text{multiply both sides by } -3$$

$$n \leq 15 \quad \text{simplification}$$

solution: $n \leq 15$

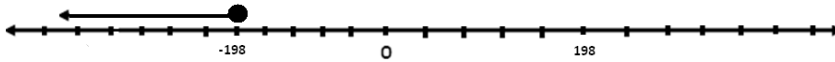


21) $\frac{t}{9} \leq -22$

$9 \times \frac{t}{9} \leq -22 \times 9$ *multiply both sides by 9*

$t \leq -198$ *simplification*

solution: $t \leq -198$

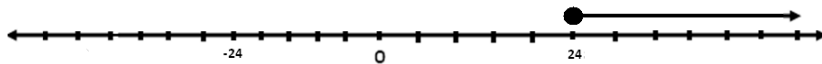


22) $\frac{c}{8} \geq 3$

$8 \times \frac{c}{8} \geq 8 \times 3$ *multiply both sides by 8*

$c \geq 24$ *simplification*

solution: $c \geq 24$

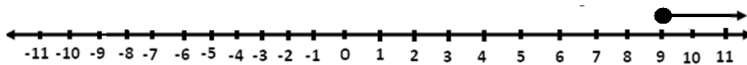


23) $5x \geq 45$

$\frac{5x}{5} \geq \frac{45}{5}$ *divide both sides by 5*

$x \geq 9$ *simplification*

solution: $x \geq 9$

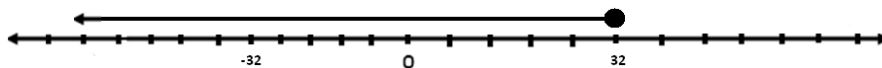


24) $\frac{y}{4} \leq 8$

$4 \times \frac{y}{4} \leq 4 \times 8$ *multiply both sides by 4*

$y \leq 32$ *simplification*

solution: $y \leq 32$

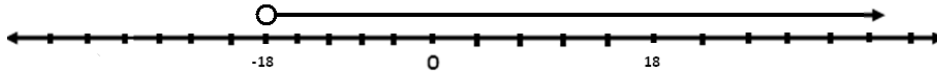


25) $\frac{z}{-3} < 6$

$-3 \times \frac{z}{-3} > -3 \times 6$ *multiply both sides by -3*

$z < -18$ *simplification*

solution: $z < -18$

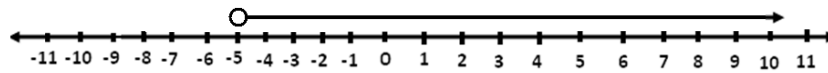


26) $7x > -35$

$$\frac{7x}{7} > \frac{-35}{7} \quad \text{divide both sides by 7}$$

$$x > -5 \quad \text{simplification}$$

solution: $x > -5$



27) $3p > -18$

$$\frac{3p}{3} > \frac{-18}{3} \quad \text{divide both sides by 3}$$

$$p > -6 \quad \text{simplification}$$

solution: $p > -6$

