Name Key Date

Section 1.3/1.5
Alg 2 Trig G Notes

SOLVING EQUATIONS AND INEQUALITIES

Solve each equation:

1. $6 = -5 + x$

+5 +5

$11 = x$

2. $7y - 2 = 19$

+2 +2

$\frac{7y}{7} = \frac{21}{7}$

$y = 3$

3. $18 = \frac{1}{2}t$ ← reciprocal

$\frac{2}{1} \cdot 18 = \frac{1}{2}t \cdot \frac{2}{1}$

$36 = t$

4. $53 = 3(y-2) - 2(3y-1)$

$53 = 3y - 6 - 6y + 2$

$53 = -3y - 4$

+4 +4

$\frac{57}{-3} = \frac{-3y}{-3}$

$-19 = y$

5. $-16 = 2x + 6x$

$\frac{-16}{8} = \frac{8x}{8}$

$-2 = x$

6. $3n - 8 = \frac{9}{5} + \frac{8 \cdot 5}{1 \cdot 5}$

+8 +8

$\frac{1}{3} \cdot 3n = \frac{49}{5} \cdot \frac{1}{3}$

$n = \frac{49}{15}$

$\frac{40}{5} + \frac{9}{5} = \frac{49}{5}$

7. $\frac{2}{3}x - 7 = 3$

+7 +7

$\frac{2}{3}x = 10$

$\frac{3}{2} \cdot \frac{2}{3}x = \frac{10}{1} \cdot \frac{3}{2}$

$x = \frac{30}{2}$

$x = 15$

8. $3(2x+2) - 5(2x+1) = 25$

$6x + 6 - 10x - 5 = 25$

$-4x + 1 = 25$

-1 -1

$-4x = 24$

$x = -6$

9. $4y - 3 < 5y + 2$

$-4y \quad -4y$

$-3 < y + 2$

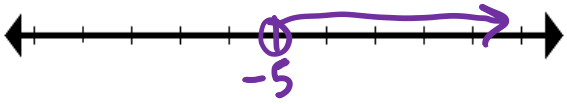
$-2 \quad -2$

$-5 < y$

* get the variable on the left side

$y > -5$ ← easier to graph

open circle



10. $6x - 2 \leq 5x + 7$

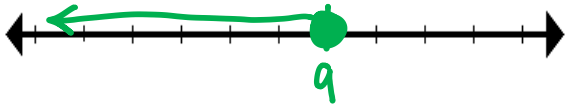
$-5x \quad -5x$

$x - 2 \leq 7$

$+2 \quad +2$

$x \leq 9$

closed circle



11. $2 \geq -0.3p$

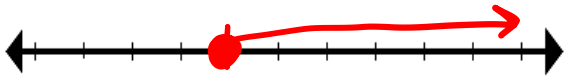
$-0.3 \quad -0.3$ ← divide by a negative

* FLIP THE INEQUALITY

$-6.67 \leq p$

*

$p \geq -6.67$



12. $-3x > 21$

$-3 \quad -3$ FLIP!

$x < -7$ open circle

13. $-x > \frac{x-7}{2}$

14. $\frac{x+5}{3} < -2x$