

Equations & Inequalities Test Review

Part I: Solving Equations

Solve each equation.

1) $-5p - 7(5p + 1) = -7 + 5p$

2) $-5(a - 8) = -2a + 28$

3) $4(1 + 3x) = 24 + 2x$

4) $p + 8(p + 6) = 7p + 40$

5) $\frac{7}{5} - \frac{2}{3}x = -\frac{11}{3}x - \frac{11}{5}$

6) $1 + \frac{5}{3}p = -\frac{8}{3}p + \frac{1}{3}p$

Part 2: Solving & Graphing Inequalities

Solve each inequality and graph its solution.

7) $-5p - 2(1 + 7p) \geq 131$

8) $-8(r + 8) < -88$

9) $101 < -8(-2 - 2x) + 5$

10) $-119 > 7(-5m - 7)$

11) $3(2x - 6) > -18 + 6x$

12) $21 + 5n \geq -5(-n - 4)$

Part 3: Solving and Graphing Compound Inequalities

Solve each compound inequality and graph its solution.

13) $-5 + 7r > -75$ and $3r - 2 < -23$

14) $1 + 3x < -8$ and $5x - 3 > -28$

15) $-20 < 3x + 1 \leq 31$

16) $-4 + 3x \geq -25$ and $7x - 1 < -8$

17) $-8 - 6n < -44$ or $7 - 5n > 2$

18) $-9 + 2n > 5$ or $n - 6 < -9$

Part 4: Solving Absolute Value Equations

Solve each equation.

$$19) \frac{|x + 8|}{6} = 4$$

$$20) -5 \left| \frac{r}{2} \right| = 25$$

$$21) -10 \left| \frac{v}{10} \right| = 0$$

$$22) 10 - 3|6 + k| = -29$$

$$23) 8 \left| \frac{n}{4} \right| + 9 = -1$$

$$24) 9|n - 3| + 2 = 56$$

$$25) |8p + 9| = 9$$

$$26) |2b - 10| = 18$$

Part 5: Solving Absolute Value Inequalities

Solve each inequality.

$$27) |8n - 9| < 89$$

$$28) |-6x - 8| \leq 32$$

$$29) |6 + 9m| + 5 \geq 101$$

$$30) |2 - 10b| + 3 \leq 41$$

$$31) 9|4b + 9| \leq -27$$

$$32) |-3k - 9| + 6 < 12$$

$$33) 7 \left| \frac{p}{4} \right| + 3 \leq 17$$

$$34) -1 - 5|m + 6| \geq 14$$