

Section 3.7 – Solving Inequalities

Problem Set 2

In exercises 1-6, give the name of the property that justifies each statement.

1. If $x < 2$ then $x - 2 < 2 - 2$.
2. If $3 \geq x$ and $x > 2b$ then $3 > 2b$.
3. If $a + 2 \geq b$ then $a \geq b - 2$.
4. If $a - 2 < c + 1$ then $a - 2 + 4 < c + 1 + 4$.
5. If $5 \leq p$ then $-2 \cdot 5 \geq -2p$.
6. If $-2(4 + 3x) > 2$ then $2(4 + 3x) < -2$.

Solve the following inequalities.

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|--------------------------------------|--------------------------------|---------------------------------------|
| 7. $-2y + 2 > 4$ | 8. $-2x + 1 > 3(x - 1) + x$ | 9. $3a - 2 \leq (a - 4) + 2$ |
| 10. $-2b + 1 < 2(b + 1)$ | 11. $3 + \frac{x}{3} > -x - 4$ | 12. $4.1(x + 1) + 1.6x - 2.2 \leq -2$ |
| 13. $\frac{1}{6} + \frac{2x}{3} > 1$ | 14. $-t + 4 \geq t + 3(t - 2)$ | 15. $4a + 1 > 2(2a + 1)$ |