Chapter 2
Test Form A, B, C Solutions

Answers are at the end of the test.

1. Solve for x: $\frac{x}{3}+\frac{2}{9}=\frac{3}{7}$

a. $\frac{13}{21}$ **b.** $\frac{-13}{21}$ **c.** $\frac{21}{13}$ **d.** $\frac{-21}{13}$

ae. all reals **be**. no solutions

2. Solve for x: $\frac{x}{21}+\frac{2x}{9}=\frac{17x}{63}$

a. $\frac{17}{22}$ **b.** $\frac{-17}{22}$ **c.** $\frac{22}{17}$ **d.** $\frac{-22}{17}$

ae. all reals **be**. no solutions

3. Solve for x: $\frac{x}{21}+\frac{2x}{9}=\frac{17x}{63}+1$

a. $\frac{-22}{21}$ **b.** $\frac{22}{21}$ **c.** $\frac{-21}{22}$ **d.** $\frac{21}{22}$

ae. all reals **be**. no solutions

4. Solve for y: $\frac{1}{3}(y+8)+8=\frac{1}{6}(2y+24)-4$

a. $\frac{7}{52}$ **b.** $\frac{-7}{52}$ **c.** $\frac{52}{7}$ **d.** $\frac{-52}{7}$

ae. all reals **be**. no solutions

5. Solve for y: $1.2(y+3)=2.8y+0.4(y-3)$

a. 2.4 **b.** -2.4 **c.** 4.8 **d.** -4.8

ae. all reals **be**. no solutions

6. Solve for y: $\frac{1}{3}(y+8)-8=\frac{1}{6}(9y-24)+4$

a. $\frac{7}{32}$ **b.** $\frac{-7}{32}$ **c.** $\frac{32}{7}$ **d.** $\frac{-32}{7}$

ae. all reals **be**. no solutions

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7. Solve for N: $PV = NRT$

a. $N = \frac{PV}{RT}$ **b.** $N = \frac{PT}{RV}$ **c.** $N = \frac{VT}{PV}$ **d.** $N = \frac{PR}{VT}$

ae. $N = \frac{VR}{PT}$ **be**. $N = \frac{TR}{VP}$

8. Solve for H: $A = 2LH + 2WL + 2WH$

a. $\frac{A - WL}{2L + W}$ **b.** $\frac{A - 2WL}{2L + 2W}$ **c.** $\frac{A - WL}{L + 2W}$ **d.** $\frac{2WL - A}{2L + 2W}$

ae. $\frac{A - 2HL}{2L + 2H}$ **be**. $\frac{A - 2WH}{2H + 2W}$ **ce**. $\frac{H - 2WL}{2L + 2W}$ **de**. $\frac{2WL - H}{2L + 2W}$

9. Solve for x: $-4x + 3 \le -7(x - 2)$

a. $x \le \frac{11}{3}$ **b.** $x < \frac{11}{3}$ **c.** $x \ge \frac{11}{3}$ **d.** $x > \frac{11}{3}$

ae. all reals **be**. no solutions

10. Solve for x: $-4x + 3 \le -4(x - 2)$

a. $x \le \frac{11}{3}$ **b.** $x < \frac{11}{3}$ **c.** $x \ge \frac{11}{3}$ **d.** $x > \frac{11}{3}$

ae. all reals **be**. no solutions

11. Solve $-7 < 9 - 2x \le 11$

a. $-1 < x \le 8$ **b.** $-1 \le x < 8$ **c.** $8 < x \le -1$ **d.** $8 \le x < -1$

ae. all reals **be**. no solutions

12. Simplify: $x + 3 \le 7$ and $x - 5 > 12$

a. $4 \le x < 17$ **b.** $4 < x \le 17$ **c.** $-4 \le x < 17$ **d.** $-4 < x \le 17$

ae. $-17 \le x < -4$ **be**. $-17 < x \le -4$ **ce**. all reals **de**. no solutions

13. Simplify $x + 3 \ge 7$ and $x - 5 < 12$. Write the answer in interval notation.

a. [4,17) **b.** (4,17] **c.** [-4,17) **d.** (-4,17]

ae. [-17,-4) **ae**. (-17,-4] **ce**. all reals **de**. no solutions

14. Acme Car Rental charges a flat fee of $50 per day plus $0.70 per mile. Burgess Car Rental charges a flat fee of $70 per day plus $0.60 per mile. For what daily mileage x will Burgess be more economical?

a. $x > 150$ **b.** $x > 200$ **c.** $x > 250$ **d.** $x > 300$

ae. Acme is always more economical **be**. Burgess is always more economical

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15. Solve for x: $|3x + 17| = 0$

a. $\frac{17}{3}$ **b.** $\frac{-17}{3}$ **c.** $\frac{3}{17}$ **d.** $\frac{-3}{17}$

ae. $\frac{\pm 3}{17}$ **be**. $\frac{\pm 17}{3}$ **ce**. all reals **de**. no solutions

16. Solve for x: $|2x + 7| + 5 = 12$

a. 0, 7 **b.** 0, -7 **c.** 0, 9 **d.** 0, -9

ae. all reals **be**. no solutions

17. Solve for x: $|2x + 7| + 12 = 5$

a. 0, 7 **b.** 0, -7 **c.** 0, 9 **d.** 0, -9

ae. all reals **be**. no solutions

18. Solve for x: $|2x + 17| = 5$

a. 6, 11 **b.** 6, -11 **c.** -6, 11 **d.** -6, -11

ae. all reals **be**. no solutions

19. Solve for x: $|2x + 17| < 5$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$

ae. all reals **be**. no solutions

20. Solve for x: $|2x + 17| \leq 5$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$

ae. all reals **be**. no solutions

21. Solve for x: $|2x + 17| > 5$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$

ae. all reals **be**. no solutions

22. Solve for x: $|2x + 17| \geq 5$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$

ae. all reals **be**. no solutions

23. Solve for x: $|2x + 17| + 4 \geq 9$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$

ae. all reals **be**. no solutions

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24. Solve for x: $|2x + 17| + 9 \leq 4$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$
ae. all reals **be**. no solutions

25. Solve for x: $|2x + 17| + 9 \geq 4$

a. $-11 < x < -6$ **b.** $-11 \leq x \leq -6$ **c.** $x < -11$ or $x > -6$ **d.** $x \leq -11$ or $x \geq -6$
ae. all reals **be**. no solutions

26. Acme Car Rental charges a flat fee of $70 per day plus $0.70 per mile. Burgess Car Rental charges a flat fee of $50 per day plus $0.60 per mile. For what daily mileage x will Burgess be more economical?

a. $x > 150$ **b.** $x > 200$ **c.** $x > 250$ **d.** $x > 300$
ae. Acme is always more economical **be**. Burgess is always more economical

Answers:

1 – 5:	a, ae, be, be, a
6 – 10:	d, a, b, a, ae
11 – 15:	b, de, a, b, b
16 – 20:	b, be, d, a, b
21 – 25:	c, d, d, be, ae
26:	be