

2-4 Skills Practice

Solving Equations with the Variable on Each Side

Justify each step.

1. $4k - 3 = 2k + 5$

$$4k - 3 - 2k = 2k + 5 - 2k$$

$$2k - 3 = 5$$

$$2k - 3 + 3 = 5 + 3$$

$$2k = 8$$

$$\frac{2k}{2} = \frac{8}{2}$$

$$k = 4$$

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

2. $2(8u + 2) = 3(2u - 7)$

$$16u + 4 = 6u - 21$$

$$16u + 4 - 6u = 6u - 21 - 6u$$

$$10u + 4 = -21$$

$$10u + 4 - 4 = -21 - 4$$

$$10u = -25$$

$$\frac{10u}{10} = \frac{-25}{10}$$

$$u = -2.5$$

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

Solve each equation. Check your solution.

3. $2m + 12 = 3m - 31$

5. $7a - 3 = 3 - 2a$

7. $4x - 9 = 7x + 12$

9. $5 + 3r = 5r - 19$

11. $8q + 12 = 4(3 + 2q)$

13. $6(-3v + 1) = 5(-2v - 2)$

15. $3(8 - 3t) = 5(2 + t)$

17. $8(2f - 2) = 7(3f + 2)$

19. $6(w - 1) = 3(3w + 5)$

21. $\frac{2}{3}v - 6 = 6 - \frac{2}{3}v$

4. $2h - 8 = h + 17$

6. $4n - 12 = 12 - 4n$

8. $-6y - 3 = 3 - 6y$

10. $-9 + 8k = 7 + 4k$

12. $3(5j + 2) = 2(3j - 6)$

14. $-7(2b - 4) = 5(-2b + 6)$

16. $2(3u + 7) = -4(3 - 2u)$

18. $5(-6 - 3d) = 3(8 + 7d)$

20. $7(-3y + 2) = 8(3y - 2)$

22. $\frac{1}{2} - \frac{5}{8}x = \frac{7}{8}x + \frac{7}{2}$