

Solve each equation. Check your solution.

1. $13x + 2 = 4x + 38$

2. $\frac{2}{3} + \frac{1}{6}q = \frac{5}{6}q + \frac{1}{3}$

3. $6(n + 4) = -18$

4. $7 = -11 + 3(b + 5)$

5. $5 + 2(n + 1) = 2n$

6. $7 - 3r = r - 4(2 + r)$

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

8. $5h - 7 = 5(h - 2) + 3$

10. $7c + 12 = -4c + 78$

11. $2m - 13 = -8m + 27$

12. $9x - 4 = 2x + 3$

13. $6 + 3t = 8t - 14$

Solve each equation. Check your solution.

1. $13x + 2 = 4x + 38$

$-4x \quad -4x$
 $9x + 2 = 38$
 $-2 \quad -2$
 $9x = 36$
 $x = 4$

2. $\frac{2}{3} + \frac{1}{6}q = \frac{5}{6}q + \frac{1}{3}$

$-\frac{5}{6}q \quad -\frac{5}{6}q$
 $\frac{2}{3} - \frac{4}{6}q = \frac{1}{3}$
 $-\frac{2}{3}$
 $-\frac{6}{4} - \frac{4}{6}q = -\frac{1}{3} \quad -\frac{6}{4}$
 $-\frac{6}{4} \quad a = \frac{1}{2}$

3. $6(n + 4) = -18$

$6n + 24 = -18$
 $-24 \quad -24$
 $6n = -42$
 $n = -7$

4. $7 = -11 + 3(b + 5)$

$7 = -11 + 3b + 15$
 $7 = 3b + 4$
 $-4 \quad -4$
 $3 = 3b$
 $1 = b$

5. $5 + 2(n + 1) = 2n$

$5 + 2n + 2 = 2n$
 $2n + 7 = 2n$
 $-2n \quad -2n$
 $7 \neq 0$ NO SOLUTION

6. $7 - 3r = r - 4(2 + r)$

$7 - 3r = r - 8 - 4r$
 $7 - 3r = -3r - 8$
 $+3r \quad +3r$
 $7 = -8$ NO SOLUTION

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

$14v + 6 = 10 + 14v - 4$
 $14v + 6 = 14v + 6$
 $-14v \quad -14v$
 $6 = 6$
Infinite solutions

8. $5h - 7 = 5(h - 2) + 3$

$5h - 7 = 5h - 10 + 3$
 $5h - 7 = 5h - 7$
 $-5h \quad -5h$
 $-7 = -7$
Infinite solutions

10. $7c + 12 = -4c + 78$

$+4c \quad +4c$
 $11c + 12 = 78$
 $-12 \quad -12$
 $11c = 66$
 $c = 6$

11. $2m - 13 = -8m + 27$

$+8m \quad +8m$
 $10m - 13 = 27$
 $+13 \quad +13$
 $10m = 40$
 $m = 4$

12. $9x - 4 = 2x + 3$

$-2x \quad -2x$
 $7x - 4 = 3$
 $+4 \quad +4$
 $7x = 7$
 $x = 1$

13. $6 + 3t = 8t - 14$

$-8t \quad -8t$
 $6 - 5t = -14$
 $-6 \quad -6$
 $-5t = -20$
 $t = 4$

Alg 1

Sec 2-4 B

Name _____

14. $\frac{b-4}{6} = \frac{b}{2}$

15. $\frac{5v-4}{10} = \frac{4}{5}$

16. $8 = 4(r+4)$

17. $6(n+5) = 66$

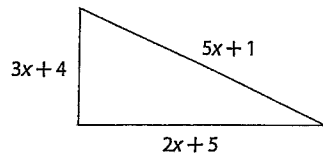
18. $5(g+8) - 7 = 103$

19. $12 - \frac{4}{5}(x+15) = 4$

20. $3(3m-2) = 2(3m+3)$

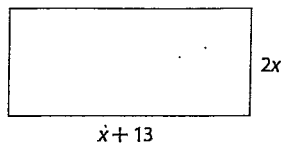
21. $6(3a+1) - 30 = 3(2a-4)$

* 9. MULTIPLE CHOICE Find the value of x so that the figures have the same perimeter.



A 4

B 5

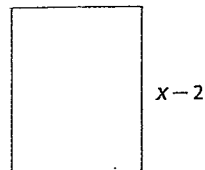
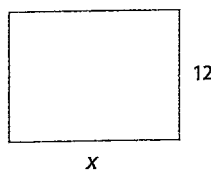


C 6

D 7

22. GEOMETRY Find the value of x so the rectangles have the same area.

23. NUMBER THEORY Four times the lesser of two consecutive even integers is 12 less than twice the greater number. Find the integers.



16

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2-4B

14. $\frac{b-4}{6} = \frac{b}{2} \cdot 6$

$b-4 = 3b$
 $-b \quad -b$
 $-4 = 2b$

$-2 = b$

15. $\frac{5v-4}{10} = \frac{4}{5} \cdot 10$

$5v-4 = 8$
 $+4 \quad +4$

$5v = 12$

$v = 2.4$

22) $12 \cdot x = 16(x-2)$

$12x = 16x - 32$
 $-16x \quad -16x$

$-4x = -32$

$x = 8$

16. $8 = 4(r+4)$

$8 = 4r + 16$
 $-16 \quad -16$

$-8 = 4r$

$-2 = r$

17. $6(n+5) = 66$

$6n+30 = 66$
 $-30 \quad -30$

$6n = 36$
 $\frac{6}{6} \quad \frac{6}{6}$

$n = 6$

23) $\frac{x}{\#1} + \frac{x+1}{\#2}$

$4(x) = 2(x+1) - 12$

$4x = 2x + 2 - 12$
 $-2x \quad -2x$

$2x = -10$

$x = -5$
 $x = -4$

18. $5(g+8) - 7 = 103$

$5g+40-7 = 103$

$5g+33 = 103$
 $-33 \quad -33$

$5g = 70$

$g = 14$

19. $12 - \frac{4}{5}(x+15) = 4$

$12 - 4/5x - 12 = 4$

$-4/5x = 4$
 $\frac{-4/5x}{-4/5} = \frac{4 \cdot 5}{-4/5}$

$x = -5$

20. $3(3m-2) = 2(3m+3)$

$9m-6 = 6m+6$
 $-6m \quad -6m$

$3m-6 = 6$

$+6 \quad +6$

$3m = 12$

$m = 4$

21. $6(3a+1) - 30 = 3(2a-4)$

$18a+6-30 = 6a-12$

$18a-24 = 6a-12$

$+24 \quad +24$

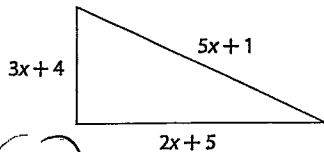
$18a = 6a+12$

$-6a \quad -6a$

$12a = 12$

$a = 1$

9. MULTIPLE CHOICE Find the value of x so that the figures have the same perimeter.

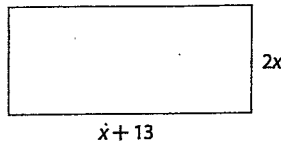


A 4

B 5

C 6

D 7



$3x+4+5x+1+2x+5$

$2x+2x+x+13+x+13$

$10x+10 = 6x+26$
 $-6x \quad -6x$

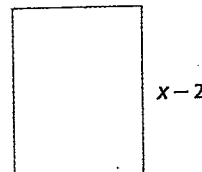
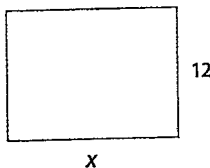
$4x+10 = 26$
 $-10 \quad -10$

$4x = 16$

$x = 4$

22. GEOMETRY Find the value of x so the rectangles have the same area. $x=8$

23. NUMBER THEORY Four times the lesser of two consecutive even integers is 12 less than twice the greater number. Find the integers.



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Alg 1

Sec 2-4 BC

Name _____

Review

Solve each equation. Check your solution. (Lesson 2-3)

52. $5n + 6 = -4$

53. $-1 = 7 + 3c$

54. $\frac{1}{2}z + 7 = 16 - \frac{3}{5}z$

55. $\frac{2}{5}x + 6 = \frac{2}{3}x + 10$

56. $\frac{a}{7} - 3 = -2$

57. $9 + \frac{y}{5} = 6$

Solve each equation. Check your solution.

25. $2x = 2(x - 3)$

26. $\frac{2}{5}h - 7 = \frac{12}{5}h - 2h + 3$

27. $-5(3 - q) + 4 = 5q - 11$

28. $2(4r + 6) = \frac{2}{3}(12r + 18)$

29. $\frac{3}{5}f + 24 = 4 - \frac{1}{5}f$

30. $\frac{1}{12} + \frac{3}{8}y = \frac{5}{12} + \frac{5}{8}y$

31. $\frac{2m}{5} = \frac{1}{3}(2m - 12)$

32. $\frac{1}{8}(3d - 2) = \frac{1}{4}(d + 5)$

Review

Solve each equation. Check your solution. (Lesson 2-3)

52. $5n + 6 = -4 \rightarrow 5n + 6 = -4$
 $-6 \quad -6$

55. $\frac{2}{5}x + 6 = \frac{2}{3}x + 10$
 $-2/3x \quad -2/3x$
 $5n = -10$
 $n = -2$

$-4/15x + 6 = 10$
 $-6 \quad -6$

$-15/4 \cdot -4/15x = 4 \cdot -15/4$

$x = -15$

53. $-1 = 7 + 3c \rightarrow -1 = 7 + 3c$
 $-7 \quad -7$

56. $\frac{a}{7} - 3 = -2$
 $+3 \quad +3$
 $-8 = \frac{3c}{3}$

$7 \cdot \frac{a}{7} = 1 \cdot 7$
 $-8 = c$

$a = 7$

$c = -8$

54. $\frac{1}{2}z + 7 = 16 - \frac{3}{5}z \rightarrow \frac{1}{2}z + 7 = 16 - \frac{3}{5}z$
 $+3/5z \quad +3/5z$

57. $9 + \frac{y}{5} = 6$
 $-9 \quad -9$
 $\frac{11}{10}z + 7 = 16$
 $-7 \quad -7$

$5 \cdot \frac{y}{5} = -3 \cdot 5$
 $y = -15$

$\frac{10}{11} \cdot \frac{11}{10}z = 9 \cdot \frac{10}{11}$

$z = \frac{90}{11}$

Solve each equation. Check your solution.

25. $2x = 2(x - 3)$

$2x = 2x - 6$

$-2x \quad -2x$

$0 = -6$

NO SOLUTION

26. $\frac{2}{5}h - 7 = \frac{12}{5}h - 2h + 3$

$\frac{2}{5}h - 7 = 2/5h + 3$

NO SOLUTION

27. $-5(3 - q) + 4 = 5q - 11$

$-15 + 5q + 4 = 5q - 11$

$5q - 11 = 5q - 11$

Infinite Solutions

28. $2(4r + 6) = \frac{2}{3}(12r + 18)$

$8r + 12 = 8r + 12$

Infinite Solutions

29. $\frac{3}{5}f + 24 = 4 - \frac{1}{5}f$

$+1/5f \quad +1/5f$

$4/5f + 24 = 4$
 $-24 \quad -24$

$4/5f = -20 \cdot \frac{5}{4}$

$f = -25$

30. $\frac{1}{12} + \frac{3}{8}y = \frac{5}{12} + \frac{5}{8}y$

$-1/12 \quad -1/12$

$3/8y = 4/12 + 5/8y$

$3/8y = 1/3 + 5/8y$

$-5/8y \quad -5/8y$

$-2/8y = 1/3$

$-1/4y = 1/3$

$-1/4y = 1/3 \cdot -4/1$
 $-4 \cdot 1$

$y = -4/3$

31. $\frac{2m}{5} = \frac{1}{3}(2m - 12)$

$\frac{2m}{5} = 2/3m - 4$

$\frac{2}{5}m = \frac{2}{3}m - 4$

$-2/3m \quad -2/3m$

$-4/15m = -4 \cdot \frac{15}{4}$

$m = 15$

32. $\frac{1}{8}(3d - 2) = \frac{1}{4}(d + 5)$

$\frac{3d}{8} - \frac{1}{4} = \frac{1}{4}d + \frac{5}{4}$

$-\frac{1}{4}d \quad -\frac{1}{4}d$

$\frac{1}{8}d - \frac{1}{4} = \frac{5}{4}$

$\frac{1}{8}d = \frac{6}{4}$

$\frac{1}{8}d = \frac{3}{2} \cdot \frac{8}{1}$

$d = 12$