NAME _____ DATE _____ PERIOD _____

Solving Literal Equations and Formulas

Solve each equation for the variable specified, and justify each step.

1. Solve $4a + b = 3a$, for a

2. Solve $\frac{c + d}{3} = 2c$, for c.

3. $f = epd$, for e

4. $12g + 31h = -8g$, for h

5. $y = mx + b$, for b

6. $v = r + at$, for r

7. $\frac{3x + y}{c} = 4$, for c

8. $\frac{5xy + n}{2} = -6$, for y

9. $m + n + 2p = 3$, for m

10. $6y + z = bc - 2y$, for y

11. $3x - 4y = 7$, for y

12. $s = \frac{n}{2}(a + t)$, for n

13. $v = \frac{4}{3}r$, for r

14. $W = mgh$, for g

15. $PV = nRT$, for V

16. $G = F - D$, for D

17. $6t + 62s = \frac{1}{2}(3t - 42s)$, for t

18. $3c + 5d = 7d - 6c$, for d

19. Four ninths of a number c increased by 4 is 18 less than one eighth times another number d. Solve for c.

A $c = \frac{9}{32}d + 31\frac{1}{2}$ **B** $c = \frac{4}{72}d + \frac{4}{72}$ **C** $c = \frac{9}{32}d - 49\frac{1}{2}$ **D** $c = \frac{4}{72}d - 31\frac{1}{2}$

Answers: **1.** $a = -b$ **2.** $c = \frac{d}{5}$ **3.** $e = \frac{t}{pd}$ **4.** $h = \frac{-20g}{31}$ **5.** $b = y - mx$ **6.** $r = v - at$ **7.** $c = \frac{3x + y}{4}$ **8.** $y = \frac{-n - 12}{5x}$ **9.** $m = 3 - n - 2p$ **10.** $y = \frac{bc - z}{8}$ **11.** $y = \frac{3x - 7}{4}$ **12.** $n = \frac{2s}{a + t}$ **13.** $r = \frac{3}{4}v$ **14.** $g = \frac{W}{mh}$ **15.** $V = \frac{nRT}{P}$ **16.** $D = F - G$ **17.** $t = -\frac{165s}{9}$ **18.** $d = \frac{9c}{2}$ **19.** C