Algebra 2

Name_____

Solving Equations Day 2

Date_____ Period_

Solve each equation.

1) $-2(3k - 1) = 14 - 4k$

2) $5k + 15 = 3(5 + 3k)$

3) $4(3n + 2) = 8n + 24$

4) $-8(x + 4) = 38 + 2x$

5) $-5(4 + 3n) = 4 - 7n$

6) $-4x + 8 = 8(1 + 7x)$

7) $-8(1 - m) = 40 - 8m$

8) $-7(5x - 8) = -8x - 25$

9) $3a + 3(-8a + 2) = 2a - 40$

10) $-8n - 30 = -3n + 7(n - 6)$

11) $-4(-7 + 6n) + 1 = -3n - 34$

12) $-v - 21 = 6(8v + 6) + 8v$

13) $35 - 8b = 7 - 3(6 - 5b)$

14) $8(3 + 2x) - 6 = 7x - 18$

15) $-1 - 2(-7n + 6) = -13 + 3n$

16) $-4(b - 8) - 4 = 20 - 6b$

17) $8k + 27 = 3(3 + 4k) - 6$

18) $34 - 8b = -(-7b - 4)$

Solve each equation or formula for the variable indicated.

1. $ax - b = c$, for x

2. $15x + 1 = y$, for x

3. $(x + f) + 2 = j$, for x

4. $xy + w = 9$, for y

5. $x(4 - k) = p$, for k

6. $7x + 3y = m$, for y

7. $4(r + 3) = t$, for r

8. $2x + b = w$, for x

9. $x(1 + y) = z$, for x

10. $16w + 4x = y$, for x

11. $d = rt$, for r

12. $A = \dfrac{h(a + b)}{2}$, for h

13. **NUMBERS** Two thirds of a number reduced by 11 is equal to 4 more than the number. Find the number.

14. **NUMBERS** Five times the sum of a number and 3 is the same as 3 multiplied by 1 less than twice the number. What is the number?

15. **NUMBER THEORY** Tripling the greater of two consecutive even integers gives the same result as subtracting 10 from the lesser even integer. What are the integers?

16. **GEOMETRY** The formula for the perimeter of a rectangle is $P = 2\ell, + 2w$, where ℓ is the length and w is the width. A rectangle has a perimeter of 24 inches. Find its dimensions if its length is 3 inches greater than its width.

17. **GEOMETRY** The volume of a cylinder V is given by the formula $V = \pi r^2 h$, where r is the radius and h is the height.

   a. Solve the formula for h.

   b. Find the height of a cylinder with volume 2500π feet and radius 10 feet.

18. **WATER PRESSURE** The water pressure on a submerged object is given by $P = 64d$, where P is the pressure in pounds per square foot, and d is the depth of the object in feet.

   a. Solve the formula for d.

   b. Find the depth of a submerged object if the pressure is 672 pounds per square foot.