Consecutive Integer Problems Homework Answer Key

1. Let x = a number = -6
   $7x - 33 = 10x - 15$
   $-33 = 3x - 15$
   $-18 = 3x$
   $x = -6$

2. Let x = smaller number = 16
   Let $(x + 7)$ = larger number = 23
   $3(x + 7) = 5 + 4x$
   $3x + 21 = 5 + 4x$
   $21 = 5 + x$
   $16 = x$

3. x = the number = 9
   $2x + 10 = 3x + 1$
   $2x + 9 = 3x$
   $x = 9$

4. x = 1st consecutive odd integer = **-29**
   $(x + 2)$ = 2nd consecutive odd integer = **-27**
   $(x + 4)$ = 3rd consecutive odd integer = **-25**
   $x + (x + 2) + (x + 4) = -81$
   $3x + 6 = -81$
   $3x = -87$
   $x = -29$

5. Let x = 1st consecutive integer = 96
   Let $(x + 1)$ = 2nd consecutive integer = 97
   Let $(x+2)$ = 3rd consecutive integer = 98
   Let $(x+3)$ = 4th consecutive integer = 99
   Let $(x + 4)$ = 5th consecutive integer = 100
   $x + (x+1) + (x+2) + (x+3) + (x+4) = 490$
   $5x + 10 = 490$
   $5x = 480$
   $x = 96$

6. Let x = 1st consecutive even integer = 14
   Let $(x+2)$ = 2nd consecutive even integer = 16
   $4x = 8 + 3(x + 2)$
   $4x = 8 + 3x + 6$
   $x = 14$

7. Let $x = 1^{st}$ consecutive integer $= 10$

   Let $(x+1) = 2^{nd}$ consecutive integer $= 11$

   Let $(x+2) = 3^{rd}$ consecutive integer $=12$

   $x + (x + 1) = (x + 2) - 13$

   $2x + 1 = x - 11$

   $x + 1 = 11$

   $x = 10$

8. Let $x = 1^{st}$ consecutive odd integer $= 11$

   Let $(x+2) = 2nd$ consecutive odd integer $= 13$

   Let $(x+4) = 3^{rd}$ consecutive odd integer $= 15$

   Let $(x+6) = 4^{th}$ consecutive odd integer $= 17$

   $x + (x+2) + (x+4) = 2(x + 6) + 5$

   $3x + 6 = 2x + 12 + 5$

   $3x + 6 = 2x + 17$

   $3x = 2x + 11$

   $x = 11$

9. $x = 1^{st}$ consecutive even integer $= 12$

   $(x+2) = 2^{nd}$ consecutive even integer $= 14$

   $(x+4) = 3^{rd}$ consecutive even integer $= 16$

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

   $12 + x = 2x$

   $12 = x$

10. Let $x = 1^{st}$ consecutive odd integer $= 15$

    Let $(x+2) = 2^{nd}$ consecutive odd integer $= 17$

    Let $(x+4) = 3^{rd}$ consecutive odd integer $= 19$

    Let $(x+6) = 4^{th}$ consecutive odd integer $= 21$

    $x + (x+2) + (x+4) = 30 + (x+6)$

    $3x + 6 = 36 + x$

    $2x = 30$

    $x = 15$

11. Let $x = $ # of calories in an apple $= 75$

    Let $(x - 29) = $ # of calories in a **peach** $= 46$

    Let $(x+13) = $ # of calories in a **banana** $= 88$

    $3x + 43 = 2(x + 13) + 2(x - 29)$

    $3x + 43 = 2x + 26 + 2x - 58$

    $3x + 43 = 4x - 32$

    $x = 75$

12. Let $x = 1^{st}$ consecutive even integer $= 0$

    Let $(x+2) = 2^{nd}$ consecutive even integer $= 2$

    Let $(x+4) = 3^{rd}$ consecutive even integer $= 4$

    Let $(x+6) = 4^{th}$ consecutive even integer $= 6$

    $x + (x+2) + (x+4) + (x+6) = 10 + x + (x+2)$

    $4x + 12 = 2x + 12$

    $x = 0$

13. Let x = 1st multiple of 7

   Let (x + 7) = 2nd multiple of 7

   Let (x + 14) = 3rd multiple of 7

   (x + 7) + (x + 14) = 7 + 3x

   2x + 21 = 7 + 3x

   21 = 7 + x

   14 = x