Directions: Find the value of c that completes the square.

1) $x^2 + 6x + c$

$\boxed{9}$

2) $x^2 - 10x + c$

$\boxed{25}$

3) $x^2 - 7x + c$

$\boxed{\dfrac{49}{4} \text{ or } 12.25}$

4) $x^2 - \dfrac{1}{2}x + c$

$\boxed{\dfrac{1}{16}}$ or $\boxed{.0625}$

5) $x^2 + 40x + c$

$\boxed{400}$

6) $x^2 + 28x + c$

$\boxed{196}$

Directions: Do the first 3 steps of completing the square. (Stop after you have factored & simplified).

7) $x^2 + 14x - 51 = 0$

$(x+7)^2 = 100$

8) $x^2 - 12x + 11 = 0$

$(x-6)^2 = 25$

9) $x^2 + 14x - 38 = 0$

$(x+7)^2 = 87$

10) $x^2 - 10x - 26 = 0$

$(x-5)^2 = 51$

11) $x^2 - 4x - 6 = 0$

$(x-2)^2 = 10$

12) $x^2 + 3x - 20 = 0$

$\left(x+\dfrac{3}{2}\right)^2 = 22.25$

Directions: Write the equation in standard form.

13) $x^2 + y^2 - 8x + 10y - 12 = 0$

$(x-4)^2 + (y+5)^2 = 53$

14) $x^2 + y^2 - 5x + 11y - 6 = 0$

$(x-\frac{5}{2})^2 + (y+\frac{11}{2})^2 = 42.5$

15) $x^2 + y^2 + 14x + 14y = 0$

$(x+7)^2 + (y+7)^2 = 98$

16) $x^2 + y^2 - 6x + 20y - 18 = 0$

$(x-3)^2 + (y+10)^2 = 127$

17) $x^2 + y^2 - 7x - 6.25 = 0$

$(x-\frac{7}{2})^2 + y^2 = 18.5$

18) $x^2 + y^2 + 10x + 16y + 3 = 0$

$(x+5)^2 + (y+8)^2 = 86$

Directions: Find the center and radius of the circle.

19) $x^2 + y^2 + 18y + 17 = 0$

$x^2 + (y+9)^2 = 64$

c: $(0, -9)$

r: 8

20) $x^2 + y^2 - 13x - 10y + 18.25 = 0$

$(x-\frac{13}{2})^2 + (y-5)^2 = 49$

c: $(\frac{13}{2}, 5)$

r: 7