Name: _____

SM2 3.4B Complex Numbers

Perform the indicated operation and write the result in standard form.

1) $(2 + 4i) + (4 - i)$

2) $(-3 - 5i) + (4 - 2i)$

3) $(7 + 9i) + (-5i)$

4) $6 - (8 + 3i)$

5) $(12 + 5i) - (2 - i)$

6) $(-6 - 7i) - (1 + 3i)$

7) $(-2i)(5i)$

8) $(4 - 3i)(5 + 2i)$

9) $(8 + i)(2 + 7i)$

10) $(-6 - 5i)(1 + 3i)$

11) $(-6i)^2$

12) $(9 + 4i)^2$

13) $\sqrt{-6} \cdot \sqrt{-2}$

14) $\left(\sqrt{-10}\right)^2$

Solve each equation by taking square roots.

15) $x^2 = -25$

16) $a^2 = -72$

17) $3x^2 - 1 = 8$

18) $(m + 1)^2 = -4$

19) $(y - 2)^2 = -3$

20) $-2n^2 = 40$