Math 2 Name_____

Unit 4.5 Quadratic Equations with Complex numbers Practice

Solve each equation with the quadratic formula.

1) $6r^2 + 10 = 0$

$\left\{\frac{i\sqrt{15}}{3}, -\frac{i\sqrt{15}}{3}\right\}$

2) $6m^2 - 7m + 10 = 0$

$\left\{\frac{7 + i\sqrt{191}}{12}, \frac{7 - i\sqrt{191}}{12}\right\}$

3) $12x^2 + 11 = 0$

$\left\{\frac{i\sqrt{33}}{6}, -\frac{i\sqrt{33}}{6}\right\}$

4) $7v^2 - 3v + 2 = 0$

$\left\{\frac{3 + i\sqrt{47}}{14}, \frac{3 - i\sqrt{47}}{14}\right\}$

5) $4a^2 - 7 = -8$

$\left\{\frac{i}{2}, -\frac{i}{2}\right\}$

6) $-4x^2 + 2x - 13 = -3$

$\left\{\frac{1 - i\sqrt{39}}{4}, \frac{1 + i\sqrt{39}}{4}\right\}$

7) $5a^2 + 11 = 8a$

$\left\{\frac{4 + i\sqrt{39}}{5}, \frac{4 - i\sqrt{39}}{5}\right\}$

8) $-4p^2 + 115 = 3p$

$\left\{-\frac{23}{4}, 5\right\}$

9) $5a^2 + a = -7$

$\left\{\frac{-1 + i\sqrt{139}}{10}, \frac{-1 - i\sqrt{139}}{10}\right\}$

10) $-11r^2 - 7 + 11r = 11r - 5r^2$

$\left\{-\frac{i\sqrt{42}}{6}, \frac{i\sqrt{42}}{6}\right\}$

11) $-8n^2 - 2 = 0$

$\left\{-\frac{i}{2}, \frac{i}{2}\right\}$

12) $8r^2 + 8r + 8 = 0$

$\left\{\frac{-1 + i\sqrt{3}}{2}, \frac{-1 - i\sqrt{3}}{2}\right\}$

13) $7p^2 - 7p + 4 = 0$

$\left\{\frac{7 + 3i\sqrt{7}}{14}, \frac{7 - 3i\sqrt{7}}{14}\right\}$

14) $3n^2 - 10n + 10 = 0$

$\left\{\frac{5 + i\sqrt{5}}{3}, \frac{5 - i\sqrt{5}}{3}\right\}$

15) $-11x^2 - 4x - 1 = 9$

$\left\{\frac{-2 - i\sqrt{106}}{11}, \frac{-2 + i\sqrt{106}}{11}\right\}$

16) $-11n^2 - 3n + 6 = 8$

$\left\{\frac{-3 - i\sqrt{79}}{22}, \frac{-3 + i\sqrt{79}}{22}\right\}$

17) $5n^2 - 8n = -12$

$\left\{\frac{4 + 2i\sqrt{11}}{5}, \frac{4 - 2i\sqrt{11}}{5}\right\}$

18) $7p^2 = -7$

$\{i, -i\}$

19) $7n^2 = -12 - 8n$

$\left\{\frac{-4 + 2i\sqrt{17}}{7}, \frac{-4 - 2i\sqrt{17}}{7}\right\}$

20) $15x^2 - 8x + 9 = -3 + 7x^2$

$\left\{\frac{1 + i\sqrt{5}}{2}, \frac{1 - i\sqrt{5}}{2}\right\}$