Review 6A

Math 105 Show all of your work.

1. Solve $(x+2)^2 = 3$.
2. Solve $x^2 + 6x + 3 = 0$ by completing the square.
3. Write a quadratic equation with roots $x = 3i$ and $x = -3i$.
4. Solve $x^2 + 2x + 3 = 0$ using the quadratic formula.
5. Solve $3x^2 + 7x - 1 = 0$ using the quadratic formula.
6. Solve $3x^2 + 4 = 0$ using any method.
7. Simply first, then solve $x^2 - \frac{1}{2}x + 3 = 0$.
8. Solve $\sqrt{2x-3} = 6$.
9. Solve $\sqrt{x+10} + \sqrt{x+3} = 1$.
10. Solve $x^4 - 10x^2 + 9 = 0$.
11. Solve $2x^{\frac{2}{3}} - 3x^{\frac{1}{3}} + 1 = 0$.
12. Solve $(7x-5)^2 - 2(7x-5) - 15 = 0$.

Answers to problems above: 1. $x = -2 \pm \sqrt{3}$ 2. $x = -3 \pm \sqrt{6}$ 3. $x^2 + 9 = 0$ 4. $x = -1 \pm i\sqrt{2}$ 5. $x = \frac{-7 \pm \sqrt{61}}{6}$ 6. $x = \pm\frac{2}{3}i\sqrt{3}$ 7. $x = \frac{1 \pm i\sqrt{47}}{4}$ 8. $x = \frac{39}{2}$ 9. No Solution 10. $x = \pm 1$, $x = \pm 3$ 11. $x = \frac{1}{8}$, $x = 1$ 12. $x = \frac{2}{7}$, $x = \frac{10}{7}$

Review 6B

Math 105 Show all of your work.

1. Solve $(x-3)^2 = -4$.
2. Solve $x^2 + 12x - 4 = 0$ by completing the square.
3. Write a quadratic equation with roots $x = 1 + \sqrt{2}$ and $x = 1 - \sqrt{2}$.
4. Solve $x^2 - 2x - 4 = 0$ using the quadratic formula.
5. Solve $4x^2 - x + 2 = 0$ using the quadratic formula.
6. Solve $3x^2 + 2x = 0$ using any method.
7. Simply first, then solve $\frac{1}{4}x^2 - \frac{1}{2}x + \frac{3}{2} = 0$.
8. Solve $\sqrt{3x-5} = 2$.
9. Solve $\sqrt{2x+5} - \sqrt{2x-4} = 1$.
10. Solve $x^6 + 7x^3 - 8 = 0$.
11. Solve $3x - 4x^{\frac{1}{2}} + 1 = 0$.
12. Solve $(\frac{x}{2} + 1)^2 + 10(\frac{x}{2} + 1) + 21 = 0$.

Answers to problems above: 1. $x = 3 \pm 2i$ 2. $x = -6 \pm 2\sqrt{10}$ 3. $x^2 - 2x - 1 = 0$ 4. $x = 1 \pm \sqrt{5}$ 5. $x = \frac{1 \pm i\sqrt{31}}{8}$ 6. $x = 0$, $x = -\frac{2}{3}$ 7. $x = 1 \pm i\sqrt{5}$ 8. $x = 3$ 9. $x = 10$ 10. $x = -2$, $x = 1$, (extra credit: $x = 1 \pm i\sqrt{3}$, $x = \frac{-1 \pm i\sqrt{3}}{2}$) 11. $x = \frac{1}{9}$, $x = 1$ 12. $x = -8$, $x = -16$