Math 172–Practice Assignment # 7 (NOT TO BE HANDED IN)

1. Solve $a^2 - 121 = 0$ by factoring.

2. Solve $2x^2 = 3$ using the even-root property.

3. Solve $2x^2 - x = 6$ by completing the square.

4. Solve $2x^2 + 3x - 1 = 0$ using the quadratic formula.

5. For each equation below, find the value of the discriminant and state the number of real solutions to the equation. You do not need to solve the equations.

a) $3x^2-x+8=0$ _____

_____

b) $y^2-y+\frac{1}{4}=0$ _____

_____

6. Consider $6x^2-7x-4$. Find the discriminant and state whether the quadratic can be factored.

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7. Find the complex solutions to $x^2+x+1=0$. _____

8. Find all solutions to $\frac{x^4}{3} = x^2+6$ _____

9. Find all real solutions to the following equations.

a) $x^4+x^2-12 = 0$ _____

b) $4a-5\sqrt{a}+1 = 0$ _____

10. Find two positive real numbers that differ by 1 and have a product of 1.

11. Pat can mow her dad's lawn in 1 hour less than it takes her brother Doug. If they take 2 hours to mow the lawn together, how long will it take Pat working alone? If your answer is irrational, leave it in radical form.