Student: In Date: In	structor: Trisha Danielle U ourse: Unten's FA2020 M/ termediate Algebra	Inten Assignment: **Quadratic Equations \098 Exam**
1. Use the square root property to solve the $m^2 = 14$	e equation. Sele ans	 A. The solution set is {
	0	3. There is no real solution.

2. Solve the equation by using the square root property. Express radicals in simplified form.

$$(3k+4)^2 = 64$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is {_____}.
 (Simplify your answer. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

B. There is no real solution.

3. Solve the equation using the square root property. Express radicals in simplified form.

$$(3-2x)^2 = 110$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is {_____}.
 (Simplify your answer. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

O B. There is no real solution.

4.	Solve the equation by completing the square. $x^2 - 8x = -12$	Select the correct choice below and, if necessary, fill in the answer box to complete your choice.			
		○ A.	The solution set is {}. (Simplify your answer. Type an integer or a simplified fraction. Use a comma to separate answers as needed.)		
		⊖ В.	There is no real solution.		

5. Solve by using the quadratic formula.

$$5p^2 = -24p - 16$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is {_____}.
 (Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)
- **B.** There is no real solution.
- 6. Use the quadratic formula to solve the equation.
 - $-4x^2 = -3x + 2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is {_____}.
 (Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

B. There is no real solution.

7. Use the quadratic formula to solve the equation.

$$3x^2 - 4x + 5 = 8x + 1$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is {_____}.
 (Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)
- **B.** There is no real solution.
- 8. Find all square roots of the number.

36

The two square roots of 36 are _____. (Use a comma to separate answers as needed. Type an integer or a simplified fraction.)

9. Determine whether the following number is rational, irrational, or not a real number. If the number is rational, give its exact value. If the number is irrational, give a decimal approximation to the nearest thousandth. Use a calculator if necessary.

√83

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The number $\sqrt{83}$ is rational and $\sqrt{83}$ = _____. (Type an integer or a decimal.)
- **B.** The number $\sqrt{83}$ is irrational and $\sqrt{83} \approx$ _____. (Type an integer or decimal rounded to the nearest thousandth as needed.)
- \bigcirc C. The number $\sqrt{83}$ is not a real number.

10. Determine whether the following number is rational, irrational, or not a real number. If the number is rational, give its exact value. If the number is irrational, give a decimal approximation to the nearest thousandth. Use a calculator if necessary.

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- \sqrt{1700}
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Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

 \bigcirc A. The number – $\sqrt{1700}$ is rational and – $\sqrt{1700}$ = . (Type an integer or a decimal.) \bigcirc **B**. The number – $\sqrt{1700}$ is irrational and – $\sqrt{1700} \approx$ (Type an integer or decimal rounded to the nearest thousandth as needed.) \bigcirc C. The number – $\sqrt{1700}$ is not a real number. 11. Simplify the following radical. Select the correct choice below and fill in any answer boxes within your choice. - \sqrt{700} \bigcirc **A**. $-\sqrt{700} =$ (Type an exact answer, using radicals as needed.) B. The radical cannot be simplified. 12. Simplify the radical. 11 √ 36 11 36 (Type an exact answer, using radicals as needed.) 13. Simplify. 35√77 7√11 $35\sqrt{77}$ $7\sqrt{11}$ (Simplify your answer. Type an exact answer, using radicals as needed.) 14. Simplify by factoring. ³√1250 √1250 =

(Type an exact answer, using radicals as needed.)

15. Simplify by taking roots of the numerator and the denominator.

$\sqrt[3]{\frac{512}{125}}$			
$\sqrt[3]{\frac{512}{125}} =$ (Simplify your answer. Type an exact answer, using radicals as needed.)			
Rationalize the denominator.			
$\frac{2\sqrt{6}}{\sqrt{7}}$			
$\frac{2\sqrt{6}}{\sqrt{7}} = $ (Simplify your answer. Type an exact answer, using radicals as needed.)			
Rationalize the denominator of the following radical. $\sqrt{13}$			

3	13		
	9		

16.

17.

3	13				
1	9	=			

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression.)

1. A. The solution set is $\left\{ \sqrt{14}, -\sqrt{14} \right\}$.

(Type an integer or a simplified fraction. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

2. A. The solution set is $\left\{ -4, \frac{4}{3} \right\}$

(Simplify your answer. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

3. A. The solution set is $\left\{\frac{3-\sqrt{110}}{2}, \frac{3+\sqrt{110}}{2}\right\}$.

(Simplify your answer. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

4. A. The solution set is { 2,6 }. (Simplify your answer. Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

5. A. The solution set is $\left\{ -4, -\frac{4}{5} \right\}$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

6. B. There is no real solution.

7. A. The solution set is

$$\frac{6+2\sqrt{6}}{3},\frac{6-2\sqrt{6}}{3}\bigg\}.$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

8. 6, -6

9. B. The number $\sqrt{83}$ is irrational and $\sqrt{83} \approx 9.110$. (Type an integer or decimal rounded to the nearest thousandth as needed.)

10. B. The number $-\sqrt{1700}$ is irrational and $-\sqrt{1700} \approx -41.231$. (Type an integer or decimal rounded to the nearest thousandth as needed.)

11. A. $-\sqrt{700} = -10\sqrt{7}$ (Type an exact answer, using radicals as needed.)

12. <u>√1</u> -6	1 <u>1</u> 3	
13. 5√7	7	
14. ₅ ∛₁	/10	
15. <u>8</u> 5		
16. $\frac{2\sqrt{2}}{7}$	<u>/42</u> 7	
17. $\frac{3}{\sqrt{39}}$	<u>39</u> 3	