Student: Date: Time:		Instructor: Josh Ducey Program: 199E: Precalculus/Algebra Gateway Test Bank: MyMathTest: Basic Algebra Precalculus and Calculus	Assignment: Qualifier 4: Equations and Inequalities		
1.	A jogger ran 4 miles, decreased her speed by 1 mile per hour, and then ran another 5 miles. If her total jogging time was $1\frac{17}{42}$ hours, find her speed for each part of her run.				
	The speed for the first part of her run was mph.				
	The speed for the secon	nd part of her run was mph.			
2.	Solve the polynomial inequality and graph the solution set on a real number line. Express the solution set in interval notation.				
	(x-5)(x+7) > 0				
	What is the solution se choice.	t? Select the correct choice below and	fill in any answer boxes within your		
	OA. The solution set	is . (Type your answer in interval	notation.)		
	OB. The solution set	is \varnothing .			
3.	Solve the absolute value	ue inequality.			
	$-6 x-9 \ge -30$				
	The solution is . (T	ype the answer using interval notation	1.)		
4.	Find the square of the	radical expression.			
	$\sqrt{\frac{2}{5}}$				
	What is the square?				

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5.	Solve the equation using the quadratic formula.				
	$x^2 + 2x - 4 = 0$				
	x = Simplify your answer. Sanswers.)	Type exact answers, using radicals as	s needed. Use a comma to separate		
6.	Compute the discriminant. Then determine the number and type of solutions for the given equation $8x^2 - 4x + 1 = 0$				
	What is the discriminant?				
	Choose the sentence that describes the number and type of solutions to the quadratic equation.				
	There are two une	qual real solutions.			
	O There is one real solution.				
	There are two con	nplex imaginary solutions.			
7.	Solve the inequality and interval notation.	graph the solution set on a real number	ber line. Express the solution set in		
	$ x^2 + 3x - 29 > 25$				
	The solution set is . (Type your answer in intexpression.)	erval notation. Use integers or fract	ions for any numbers in the		

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8. Solve.

$$\sqrt[3]{4x-3}+5=2$$

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

OA. x =

(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

- OB. There is no real solution.
- 9. Solve the absolute value inequality.

$$3 < |4 - 9x|$$

The solution is

(Type the answer using interval notation. Simplify your answer. Use integers or fractions for any numbers in the expression.)

10. Solve the polynomial inequality and graph the solution set on a real number line. Express the solution set in interval notation.

$$x^3 + 4x^2 - x - 4 \ge 0$$

Choose the correct solution below.

$$\bigcirc$$
A. [-4,-1]∪[1,∞)

OB.
$$(-\infty, -4) \cup (-1,1)$$

$$\bigcirc$$
C. $(-\infty, -4] \cup [-1,1]$