Student: _____	**Instructor:** Garth Isaak	**Assignment:** Algebra practice diagnostic 1a
Date: _____	**Course:** precalc blitzer (1)	
Time: _____	**Book:** Blitzer: Precalculus Essentials, 3e	

1. Evaluate the algebraic expression for the given values of the variables.

$\frac{y-5x}{8x+xy}$; $x=-3$ and $y=4$

A. $-\frac{19}{36}$

B. $-\frac{4}{9}$

C. $\frac{11}{12}$

D. $\frac{11}{36}$

2. Use the quotient rule to simplify the expression.

$\frac{\sqrt{112x^4}}{\sqrt{4x}}$

A. $112x^3$

B. $2|x|\sqrt{7x}$

C. $4|x|\sqrt{x}$

D. $\frac{x^2\sqrt{112}}{4}$

3. Find the product.

$(x+6)(x^2+7x-5)$

A. $x^3+13x^2+47x+30$

B. $x^3+13x^2+37x-30$

C. $x^4+6x^3+7x^2+37x-30$

D. $x^3+13x^2+47x-30$

4. Factor and simplify the algebraic expression.

$(x+9)^{-1/3} - (x+9)^{-2/3}$

A. $(x+9)^{-1/3} - (x+9)^{-2/3}$

B. $\dfrac{x+8}{(x+9)^{2/3}}$

C. $\dfrac{(x+9)^{1/3}-1}{(x+9)^{1/3}}$

D. $\dfrac{(x+9)^{1/3}-1}{(x+9)^{2/3}}$

5. Simplify the following expression.

$$\frac{x^3+1}{x^3-x^2+x} \cdot \frac{2x}{-14x-14}$$

A. $-\dfrac{1}{7}$

B. $-\dfrac{x^3+1}{7(x+1)}$

C. $\dfrac{x+1}{7(-x-1)}$

D. $-\dfrac{x^2+1}{7}$

6. Solve the quadratic equation by the method of your choice.

$x^2 + 2x = 2$

A. $\{-((2)\ /\ (2)) - 2\sqrt{3}, -((2)\ /\ (2)) + 2\sqrt{3}\}$

B. $\{-((2)\ /\ (2)) - \sqrt{3}, -((2)\ /\ (2)) + \sqrt{3}\}$

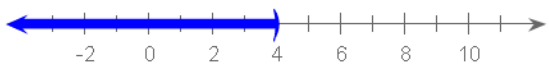
C. $\{((2)\ /\ (2)) + \sqrt{3}\}$

D. $\{-((2)\ /\ (2)) - \sqrt{3}, -((2)\ /\ (2)) + \sqrt{3}\}$

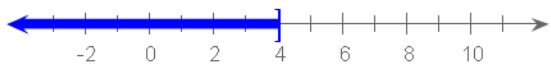
7. Solve the linear inequality. Other than ∅, use interval notation to express the solution set and graph the solution set on a number line.

$-12x + 12 \leq -2(5x - 2)$

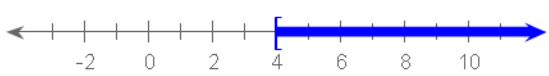
○ A. $(-\infty, 4)$



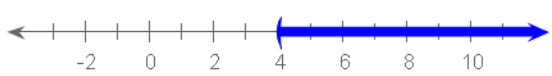
○ B. $(-\infty, 4]$



○ C. $[4, \infty)$



○ D. $(4, \infty)$



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1. A

2. B

3. B

4. D

5. A

6. B

7. C