MA 152 Exam 2 Fall 1999

Name: _____

Circle your answer to problems 1-3. <u>You must show work to receive credit</u>

(6 pts.)

1. Reduce $\dfrac{x^2-4}{7x+14}$

A. $\dfrac{x-2}{7}$

B. $\dfrac{x+2}{7}$

C. $\dfrac{x}{7}$

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

E. $\dfrac{x-4}{21}$

(6 pts.)

2. Simplify $\dfrac{\sqrt{80}}{\sqrt{12}}$

A. $\sqrt{6.6}$

B. $2\sqrt{17}$

C. $\sqrt{68}$

D. $\dfrac{2\sqrt{5}}{\sqrt{3}}$

E. $\dfrac{4\sqrt{5}}{\sqrt{3}}$

(6 pts.)

3. Multiply and express in simplest form.

$$\frac{3x^2+7x-20}{2x-6}\ \frac{x^2-9}{5x^2+35x+60}$$

A. $\dfrac{3x-5}{2}$

B. $\dfrac{(3x-5)(x+4)}{2(5x+20)}$

C. $\dfrac{(3x-5)(x+3)}{2(x-3)}$

D. $\dfrac{3x-5}{10}$

E. $\dfrac{(x+4)}{10(x-4)}$

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(8 pts.)

4. Simplify $\dfrac{\dfrac{x-3}{2}}{\dfrac{x^2-9}{x+2}}$

(18 pts.)

5. Factor completely over the integers.

(6 pts.) a) $18x^2 - 50$

(6 pts.) b) $y^3 + 3y^2 - 4y - 12$

(6 pts.) c) $10x^2 + 3x - 18$

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(12 pts.) 6. Perform the indicated operations and simplify.

(6 pts.) a) $\dfrac{7x}{3x+12} + \dfrac{4x}{x-4}$

(6 pts.) b) $\dfrac{3x+1}{5x-2} + \dfrac{2x}{2-5x}$

(12 pts.) 7. Owen invested \$2000 in a bank account, some at 7%(simple interest) per year and the rest at $9\frac{1}{2}\%$ per year. How much did Owen invest at $9\frac{1}{2}\%$, if the total amount of interest for one year was \$171.25? (I = Prt) (Name a variable(s), set up an equation(s) and solve.)

Amount invested at $9\frac{1}{2}\% =$

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(8 pts.)

8. Solve for x. Give your answer in simplest radical form.
$2x^2 + 10x + 5 = 0$

x =

(12 pts.)

9. It takes Tim 15 hours to paint a house. Tim and Angie, working together, can paint the same house in 11 hours. How long would it take Angie to paint the house by herself? (Name a variable, set up an equation and solve.)

Time it takes Angie to paint the room =

(12 pts.)

10. Tinky Winky has $5.70 in dimes and quarters in his purse. If he has 36 coins in all, how many dimes and how many quarters are there? (Name a variable(s), set up an equation and solve.)

Number of dimes =

Number of quarters =