Math 1051, sec 10, Fall 2010, Robertson, Exam 1 on Appendix

Wednesday 29 September 2010 in 230 STSS

- Exam has 6 pages and 10 problems. Be sure you have them all.

- Exam is closed book and notes. You may use a scientific calculator but not a graphing calculator or a cell phone calculator.

- You have 50 minutes to do the exam. When the proctor calls time you must stop writing and hand in your papers or you may be given a score of 0%.

- Do all your work in the spaces provided on these sheets. If you need additional space ask the proctor for more paper.

- For problems that have more than one part, numbers in brackets [ ] indicate the point value for that part.

- Write your answer in the space provided for each problem. Answers must be in simplest form.

- Your solutions are graded primarily for procedure and partial credit is possible. To receive any points you must show the detailed mathematical steps needed to arrive at your answers.

You may NOT use a graphing calculator on this test. Doing so will result in a score of 0.
1. [10] Find the area of this hockey rink. The width of the rink is 50 feet and the height is 20 feet. Use 3.14 for pi. ANS: Area = ______________

2. [10] Simplify completely: \((x - 2)^2 - (x - 1)^2\) ANS: ___________________________
3. [10] Find the quotient and remainder of \(4x^4 - x + 1\) divided by \(x^2 + 1\).

ANS: Quotient = __________________

ANS: Remainder = ________________

4. [10] Factor completely: \(12x^3 + 26x^2 - 10x\)

ANS: ___________________________
5. [10] Combine into a single fraction and simplify completely: \[
\frac{2}{x^2 + 2x + 1} - \frac{1}{x^2 - 1}
\] 
ANS: ___________________________

6. [10] Solve: \[
\frac{3}{4}(x - 2) - 5 = \frac{x}{5} - 1
\] 
ANS: x = ___________________________
7. [10] Simplify completely: \( \sqrt[3]{81x^8y^9} \)  
    ANS: ___________________________

8. [10] Write in \( a + bi \) form: \((2 - i) \div (3 - 2i)\)  
    ANS: ___________________________
9. [10] How much acid with a concentration of 25% must be added to acid with a 40% concentration to produce 50 gallons of a 30% solution? **Round your answer to the nearest whole number.**

ANS: gal of 25% soln = _____________

10. [10] What number should be added to $x^2 - 12x$ to complete the square?

ANS: ___________________________

Sign below to certify that you did this exam by yourself and that you did not use a graphing calculator:

Signature: ________________________________    HWID:  _____________

*On this exam you earned _____ points out of a total possible of 100.*