Math-8H

math.mnrt.net **Semester 1 – Exam 3 – Practice** **Dec. 8, 2017**

_____, _____. _____ of **132** points. _____. _____.
Last name (please print) First name (please print) Points Percent Letter

- Partial credit is given. Clearly written well reasoned solutions make it easier for the grader to appreciate what you know. Messy or poorly reasoned solutions have the opposite effect.
- You have 45 minutes and there are 17 questions. So you have an average of 2.6 minutes per question. Some questions are routine, leaving you more time for those that are less routine. You should not have to rush. Check your work.
- A lot of space follows some questions. That does not necessarily mean the solution is long.
- Answers must be supported by correct work.
- Only work included on these exam pages will be considered. Any additional sheets turned in with this exam will be ignored. If you need scrap paper, just ask.
- Calculators are not allowed. A multiplication table is allowed.
- Advice.
  - First pass: skip problems you cannot do easily.
  - Second pass: work problems you skipped on first pass.
- This exam consists of 7 pages. Keep turning pages until you know you have reached the end.

For questions 1 to 12, simplify. If an expression is undefined, say so.

(5 pts) 1. $\sqrt{25}$

(5 pts) 2. $\sqrt{18}$

(5 pts) 3. $\sqrt[3]{-27}$

(5 pts) 4. $\sqrt{0.09}$ (Answer with a decimal.)

(5 pts) 5. $\sqrt{\frac{36}{49}}$

(5 pts) 6. $\sqrt[4]{32}$

(5 pts) 7. $\frac{2}{\sqrt{2}}$

(8 pts) 8. $2\sqrt{3}+2\sqrt{5}-\sqrt{3}$

(8 pts) 9. $\sqrt{18}\cdot\sqrt{32}$

(16 pts) 10. $\dfrac{\sqrt{3}+\sqrt{5}}{\sqrt{15}}$

(16 pts) 11. $3\sqrt{27} - \sqrt{12} - \sqrt{75} + \sqrt{8}$

(16 pts) 12. $\frac{\sqrt{12}}{3} - \sqrt{27} + \frac{1}{\sqrt{3}}$

(5 pts) 13. List the fewest prime factors you would have to test to be certain that that 397 is a prime number?

(10 pts) 14. Show that $\sqrt{6} \neq 2.5$.

(10 pts) 15. Simplify. $\dfrac{\sqrt{40}}{10\sqrt{0.1}}$

(4 pts) 16. If $\sqrt{3.1} = 1.7607$ and $\sqrt{31} = 5.5678$, find $\sqrt{310}$.

(4 pts) 17. Find an approximate value of $\sqrt{3}$ by using just one time the formula we derived.