

Unit Test 1 – No Calculators Allowed (Practice Version)

Show all your work. Indicate clearly the methods you use, because you will be graded on correctness of your methods as well as on the accuracy and completeness of your results and explanations.

Simplify the following.

1. Order the following numbers from least to greatest: $-6, -1, 0, 3, -4, 2$. [3pts]
Use the “<” and “>” signs.

2. Draw a number line and plot the following integers: $-2, 4, -6, 1, -3$. [3pts]



3. Evaluate the following expressions: [3pts each]

a. $7 + 3 \times 2$ b. $(8 + 2) \div 5 - 1$ c. $12 - 3 \times 4 + 5$ d. $6 + 8 \div 2 - 3$

4. Convert the following fractions to decimals: [3pts each]

a. $\frac{1}{4}$ b. $\frac{3}{5}$ c. $\frac{2}{3}$

5. Convert the following decimals to percentages: [3pts each]

a. 0.25 b. 0.5 c. 0.75

6. Convert the following percentages to fractions: [3pts each]

a. 20% b. 50% c. 75%

7. Round the following numbers to two decimal places. [3pts each]

a. 3.14159 b. 2.71828 c. 1.234567

8. Simplify the following exponent expressions. [3pts each]

a. $5^3 \times 5^4 =$

b. $(4^2)^3$

c. $\frac{8^4}{8^2}$

9. Simplify the following expressions: [3pts each]

a. $\sqrt{27} + \sqrt{12}$

b. $\sqrt{75} - \sqrt{48}$

c. $\sqrt{3} \times \sqrt{27}$

10. Simplify the following expressions and rationalize the denominator: [3pts each]

a. $\frac{5\sqrt{2} + \sqrt{10}}{\sqrt{2}}$

b. $\frac{3\sqrt{5} - \sqrt{2}}{2 - \sqrt{5}}$

c. $\frac{2\sqrt{7}}{\sqrt{5} - \sqrt{2}}$

d. $\frac{5 + \sqrt{10}}{\sqrt{10} - 2}$