

**Math 1201 Midterm Review**  
**Roots and Powers: Sec 3.1, 3.2 and Chapter 4**

1. Identify the GCF of 8 and 32.                      A) 4    B) 8    C) 16    D) 32
2. Which of the following is not a factor of 16?    A) 2    B) 6    C) 8    D) 16
3. What is the LCM of 4 and 8?                      A) 4    B) 8    C) 16    D) 32
4. To what number set does -5 belong?            A) N    B) W    C) I    D)  $\bar{Q}$
5. What is the index of the following:  $\sqrt[3]{125}$ ?    A) 3    B) 5    C) 125    D)  $\sqrt$
6. Which is an irrational number?                A) 4.2    B)  $-\frac{4}{3}$     C) 3.14    D)  $\sqrt{24}$
7. Write as an entire radical:  $2\sqrt[3]{5}$     A)  $\sqrt[3]{10}$     B)  $\sqrt{20}$     C)  $\sqrt[3]{40}$     D)  $\sqrt{40}$
8. Simplify:  $\frac{x^2 \cdot x^{-5}}{x^{-4}}$                       A)  $x$     B)  $x^{-7}$     C)  $x^{-6}$     D)  $\frac{1}{x}$
9. Simplify:  $\frac{12a^{\frac{1}{3}}}{6a^{\frac{-4}{3}}}$                       A)  $\frac{2}{a}$     B)  $2a^{\frac{5}{3}}$     C)  $6a^{\frac{5}{3}}$     D)  $-2a^{\frac{5}{3}}$
10. Simplify:  $(2x^2(3x^{-3})^0)^3$             A)  $2x^5$     B)  $2x^6$     C)  $8x^5$     D)  $8x^6$
11. Arrange the following in order from least to greatest:  $2\sqrt{5}$ ,  $3\sqrt{3}$ ,  $\sqrt{24}$ ,  $5\sqrt{2}$
12. Write as a mixed radical  $\sqrt[3]{16}$
13. Write the prime factorization of 54
14. Find the GCF of : 45 and 80
15. Find the LCM of: 18 and 24
16. Pencils come in packages of 10. Erasers come in packages of 12. Jason wants to purchase the smallest number of pencils and erasers so that he will have exactly 1 eraser per pencil. How many packages of pencils and erasers should Jason buy?
17. Simplify :  $\sqrt[3]{64} + \sqrt[3]{1000} \div \sqrt{25}$
18. A cube has a surface area of 11,616 cm<sup>2</sup>. What is the exact edge length of the cube?
19. Simplify:

A)  $\left(\frac{2x^{-5}}{3x^3}\right)^2$                       B)  $(-9a^{-4}b^{\frac{3}{4}})(3a^2b^{\frac{1}{2}})$