

PREREQUISITE REVIEW
for **MATH 1324 Mathematics for Business and Economics**

1. Factor completely: $3x^3 + 18x^2 + 27x$

2. Simplify: $\frac{x^2 - 36}{x^2 + 4x - 12} \div \frac{x - 3}{x - 2}$

3. Add: $\frac{2}{a+3} - \frac{3}{a}$

4. Solve for x : $\frac{3}{x-2} + 1 = \frac{2}{x^2 - 2x}$

5. Solve for x : $-3x + 2 \geq 5$

6. Solve for x : $|2x - 1| = 4$

7. Simplify: $\frac{(3xy)^2}{(3^{-1}x^5)^{-2}}$

$$2 + \frac{3}{\frac{a}{5}}$$

8. Simplify: $\frac{3}{a}$

9. Solve for a : $a^2 - 2a = 15$

10. Solve for b : $5b^2 - 7b + 1 = 0$

11. Simplify: $\sqrt[3]{8x^3y^6}$

12. If a 20-foot ladder is placed against a wall, with the foot of the ladder 7 feet from the wall, how far up the side of the wall does the top of the ladder reach?

$$2x + y = 4$$

13. Solve the system: $x - 3y = 9$

14. Write in simplified radical form: $(27a)^{\frac{2}{3}}$

15. Jane wants to invest \$6,000. If she invested part at 6% simple interest, part at 5% and received a total of \$345 after one year, how much did she invest at each rate?