

Name \_\_\_\_\_

- Do not open this test until I say start.
- Turn off all electronic devices and put away all items except a pen/pencil and an eraser.
- No calculators allowed.
- You must show sufficient work to justify each answer.
- Quit working and close this test booklet when I say stop.

1. (6 points each) Simplify completely

(a)  $\frac{(2x^{-3}y^4z)^0}{6^{-1}x^3y}(6x^5y^{-2}z^{-1})^{-2}$

(b)  $\frac{64^{-\frac{1}{3}}}{(\sqrt{63} + \sqrt{28})^2}$

2. (6 points) Complete the square, giving your answer in the form  $a(x + b)^2 + c$ :

$$3x^2 - 12x + 7$$

3. (10 points) Solve, giving your answer in interval notation:

$$2|2x + 3| + 4 > 6$$

4. (8 points) Solve, giving all real solutions:

$$2 = \sqrt{2x + 31} + x$$