

**Do your own work.**

1. (5 pts) Simplify  $\sqrt{-16}$

2. (5 pts) Use a calculator to approximate  $\sqrt{29}$  to three decimal places.

3. Simplify:

a. (5 pts)  $\sqrt[4]{16x^4}$

b. (5 pts)  $\sqrt[3]{16x^3}$

c. (5 pts)  $\sqrt{5}\sqrt{20}$

d. (5 pts)  $\sqrt{-5}\sqrt{-20}$

e. (5 pts)  $\sqrt{5}\sqrt{-20}$

4. Solve each equation by the square root property. For full credit, show the absolute value steps. Leave final answers in simplified radical form.

a. (5 pts)  $x^2 - 27 = 0$

b. (5 pts)  $(x - 7)^2 = 45$

c. (5 pts)  $(x - 7)^2 = -45$

5. Simplify:

a. (5 pts)  $\frac{-4 \pm \sqrt{28}}{4}$

b. (5 pts)  $\frac{-4 \pm \sqrt{-28}}{4}$

**Bonus** (Next quiz material)

6. (5 pts) Solve by completing the square:  $x^2 + 18x - 2 = 0$

7. Use the discriminant to determine the number and type of solutions of the quadratic equation. Then solve by any of the three methods.

i. (4 pts)  $x^2 + 18x - 2 = 0$

ii. (4 pts)  $x^2 + 2x + 18 = 0$

iii. (4 pts)  $x^2 - 5x - 6 = 0$

iv. (4 pts)  $3x^2 - 5x + 2 = 0$

v. (4 pts)  $9x^2 - 30x + 25 = 0$