

Name _____

6-8A Lesson Master**Questions on SPUR Objectives**

See Student Edition pages 446–449 for objectives.

SKILLS Objective C

In 1-3, give all solutions, both real and imaginary.

1. Solve for x . a. $x^2 = 9$ _____
 b. $x^2 = -9$ _____
2. Solve for a . a. $a^2 = 21$ _____
 b. $a^2 = -21$ _____
3. Solve for p . a. $(p - 0.2)^2 = 0.81$ _____
 b. $(p - 0.2)^2 = -0.81$ _____
4. Solve $3x^2 + 363 = 0$. Write the solutions
- a. with a radical sign. _____
- b. without a radical sign. _____

SKILLS Objective E

In 5-7, simplify the expression.

5. $\sqrt{-81} =$ _____ 6. $\sqrt{-2209} =$ _____ 7. $-\sqrt{-\frac{9}{16}} =$ _____

In 8 and 9, evaluate $\sqrt{b^2 - 4ac}$ for the given values of a , b , and c .

8. $a = 10, b = 8, c = 2$ _____ 9. $a = -2, b = -3, c = -5$ _____

In 10-17, perform the indicated operations and simplify the result.

10. $7i - 3i + 5i =$ _____ 11. $3\sqrt{-4} - 2\sqrt{-25} =$ _____
12. $(3i)(5i) =$ _____ 13. $\sqrt{-16} \cdot \sqrt{-49} =$ _____
14. $\frac{18i}{3i} =$ _____ 15. $\frac{\sqrt{-144}}{\sqrt{-81}} =$ _____
16. $\frac{17i - 12i}{10i} =$ _____ 17. $\frac{\sqrt{-16} + \sqrt{-9}}{5} =$ _____

18. Give examples for values of a and b so that:

- a. $\sqrt{a} \cdot \sqrt{b} = \sqrt{ab}$ _____ b. $\sqrt{a} \cdot \sqrt{b} \neq \sqrt{ab}$ _____

19. **Multiple Choice** The square of a pure imaginary number is _____.

- A always a pure imaginary number B always a positive real number
 C always a negative real number D a real number that could be either positive or negative