

Name _____

4-5 Lesson Master

Questions on SPUR Objectives
See Student Edition pages 275–277 for objectives.

SKILLS Objectives C and E

In 1–3, give the prime factorization of the polynomial over the reals.

1. $x^2 + 3x - 4$ _____

2. $(w^2 - 9)(3w^3 + 5w^2)$ _____

3. $m^5 + m^3 - 12m$ _____

4. Let $p(y) = y^5 - 8y^4 + 23y^3 - 40y^2 + 60y - 48$. Given that $y^2 + 3$ is a factor of $p(y)$, 4 is a zero of $p(y)$, and -2 is a zero of $p(y)$ of multiplicity 2, find the prime factorization of $p(y)$.

5. What is the largest prime factor you might have to check to see if 1223 is prime? _____

In 6 and 7, determine the standard prime factorization of the number or state that it is prime.

6. 680 _____

7. $2.43 \cdot 106$ _____

8. Use the Fundamental Theorem of Arithmetic to explain why 13 is not a factor of 42,500.

PROPERTIES Objective I

9. Prove by contradiction: There is no greatest multiple of 7. _____

