Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Factor each polynomial by using the sum or difference of cubes.

1. $x^{3}-27$ 2. $64+x^{3}$

3. $32x^{3}-4$ 4. $64x^{3}+343$

5. $125x^{4}+8x$ 6. $648x^{3}+81$

7. $5x^{6}-135x^{3}$

Find the real-number solutions for each equation.

8. $125x^{3}+1=0$ 9. $64-125x^{3}=0$ 10. $8x^{4}-343x=0$