

Name \_\_\_\_\_

**Simplify the expression.**

1)  $\left(\frac{1}{3}\right)^{-4}$

2)  $\frac{6^{-4}}{5^{-2}}$

3)  $\frac{1}{7^{-3}}$

4)  $6^{-1} \cdot 6^3 \cdot 6^{-4}$

**Simplify. Do not use negative exponents in your answer.**

5)  $(x^9y^{-8}z^{-2})(x^{-2}y^{-5}z^7)$

**Simplify the expression. Write the answer using positive exponents.**

6)  $\frac{y^{-13}}{y^3}$

7)  $\frac{4x^{-5}}{y^{-7}z^{-2}}$

8)  $\frac{(y+d)^{-33}}{(y+d)^{-6}}$

9)  $(k^4)^{-5}(km)^6$

10)  $\left(\frac{4a}{b}\right)^{-4}$

**Divide.**

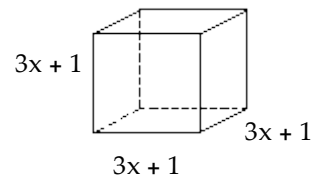
11)  $\frac{a^6 - a}{a}$

12)  $\frac{x^5 - 63x}{7x^2}$

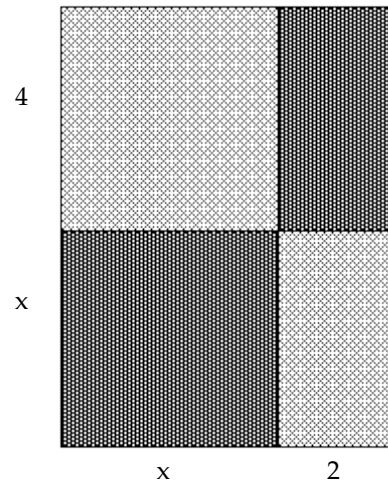
13)  $\frac{5x^2 - 2x + 1}{10x}$

**Solve the problem.**

- 14) Find a polynomial that represents the volume of the cube.



- 15) Find the total area of the darker shaded rectangles.



Answer Key

Testname: WKS\_12.5\_12.6

1) 81

2)  $\frac{25}{1296}$

3) 343

4)  $\frac{1}{36}$

5)  $\frac{x^7z^5}{y^{13}}$

6)  $\frac{1}{y^{16}}$

7)  $\frac{4y^7z^2}{x^5}$

8)  $y + d$

9)  $\frac{m^6}{k^{14}}$

10)  $\frac{b^4}{256a^4}$

11)  $a^5 - 1$

12)  $\frac{x^3}{7} - \frac{9}{x}$

13)  $\frac{x}{2} - \frac{1}{5} + \frac{1}{10x}$

14)  $27x^3 + 27x^2 + 9x + 1$

15)  $x^2 + 6x + 8$