Simplify:
\[
\frac{2x^4y^5}{16x^2y^0} \rightarrow -2
\]

Simplify fraction \(\frac{7}{16}\)

\[
\frac{x^4y^5}{8x^2y^0} \rightarrow -2
\]

Rule 8

\[
\frac{8x^2y^0}{x^4y^5} \rightarrow 2
\]

Rule 7 \((y^0 = 1)\)

\[
\frac{8x^{-2}}{x^4y^5} \rightarrow \frac{2}{x^6y^5}
\]

Rule 2

\[
(8 \cdot x^{-6} \cdot \frac{1}{y^3})^2
\]

Rule 4

\[
\frac{64 - (x-6)^2 \cdot \left(\frac{1}{y^3}\right)^2}{(8^2 - 64)}
\]

Rule 3

\[
64 - (x-6)^2 \cdot \left(\frac{1}{y^5}\right)^2
\]

Rule 5

\[
64 - x^{-12} \cdot \frac{1}{(y^3)^2}
\]

Rule 3

\[
64 - x^{-12} \cdot \frac{1}{y^3}
\]

Rule 6

\[
\frac{64 \cdot \frac{1}{x^{12}} \cdot \frac{1}{y^3}}{1 - x^{12} \cdot y^0}
\]

fractions

\[
\frac{64}{x^{12}y^{15}}
\]
Simplify:

\[
\left( \frac{2x^4y^5}{16x^{-2}y^0} \right)^{-2}
\]

Simplify fraction \(\frac{2}{16}\)

\[
\left( \frac{x^4y^5}{8x^{-2}y^5} \right)^{-2}
\]

Rule 8

\[
\left( \frac{8x^{-2}}{x^4y^5} \right)^{-2}
\]

Rule 7 \((y^0 = 1)\)

\[
\left( \frac{8 \cdot x^{-2}}{1 \cdot x^4 \cdot y^5} \right)^{-2}
\]

Rule 2

\[
\left( 8 \cdot x^{-6} \cdot \frac{1}{y^5} \right)^2
\]

Rule 4

\[
8^2 \cdot (x^{-6})^2 \cdot \left( \frac{1}{y^5} \right)^2
\]

\[
(8^2 - 64)
\]

64 - (x^{-6})^2 - \left( \frac{1}{y^5} \right)^2

Rule 3

64 \cdot x^{-12} \cdot \left( \frac{1}{y^5} \right)^2

Rule 5

64 \cdot x^{-12} \cdot \frac{1}{(y^5)^2}

Rule 3

64 \cdot x^{-12} \cdot \frac{1}{y^{10}}

Rule 6

64 \cdot \frac{1}{x^{12}} \cdot \frac{1}{y^{10}}

\[
\frac{64}{x^{12}y^{10}}
\]
Chapter 3 Test

Announcements
1. Extra Credit Session today 4:00-5:15 pm in 4-202
   The topic will be proportions, exponent rules, and scientific notation.
2. This week's Math Center assignment is the Ch 3 Lab Activity.
3. Formulas Test is next Tuesday.
4. Collect Post-Test Analysis.

→ 7 days until Formulas Test 1!

Maria Angelica - coach - workshops for the week:
  Today 1:00 - 2:30
  Wednesday 1:00 - 2:30  Room 7-242 (behind the front desk in Math lab)
  Thursday

How to study for Formulas Test 1

"Formulas Test 1: Use This to Study"

Study this file (in Prof's website)

4 ways to memorize formulas:
1. Index cards ("boxes" in one side, "outside the boxes" in the other side)
2. Record yourself saying all of the formulas (voice recorder)
3. Writing approach (Write everything over and over again, at least 10 times each formula)
\[ \frac{70}{5.735} = 27d^3 + 8c^3 \]

Steps for factoring:

1) Desc. Order (Skip) because we have \( \neq \) terms/variable
2) GCF
3) Count the terms

\[ c \left[ 27d^3 + 8c^3 \right] \]

3) Count the terms (inside the [ ])

Two terms:
- Sum of squares:
  \[ a^2 - b^2 = (a+b)(a-b) \]
- Difference of cubes:
  \[ a^3 - b^3 = (a-b)(a^2 + ab + b^2) \]
- Sum of cubes:
  \[ a^3 + b^3 = (a+b)(a^2 - ab + b^2) \]

So:

\[ 27d^3 + 8c^3 \]

\[ = (3d)^3 + (2c)^3 = \left[ (3d)^2 + (2c) \right] \left[ (3d)(2c) + (2c)^2 \right] \]

\[ = 27d^3 + 8c^3 = (3d+2c)(9d^2 - 6cd + 4c^2) \]

\[ c \left[ 27d^3 + 8c^3 \right] \]

\[ (c)(3d+2c)(9d^2 - 6cd + 4c^2) \]

So, the right answer is \( c \).