7.3 Dividing Polynomials by Monomials

Explore Dividing a Polynomial by a Monomial

The following notes provide guidelines to help you adapt the Explore Dividing a Polynomial by a Monomial section from *MathLinks 9*.

- Read the introduction aloud.
- Review the terms *volume*, *dimensions*, *rectangular solid*, *base of a solid*, *ratio*, *quotient*, *polynomial*, and *monomial*.
- Students may benefit from working through the questions as a teacher-led activity.
- Use a box or a wooden rectangular solid as a visual to help students see the area of the base and the height.

Examples

Working Example 1:

- Review the meaning of *quotient*, *divisor*, and *denominator*.

Working Example 2:

- You may wish to start with a simpler example to ensure that students understand that they need to divide both terms by the denominator (divisor) or break the expression into two parts. For example:

$$\begin{aligned}\frac{6x^2 + 18x}{3x} &= \frac{6x^2}{3x} + \frac{18x}{3x} \\ &= 2x + 6\end{aligned}$$

- Review the formula for the surface area of a cylinder. Use an actual model to demonstrate the radius and height.
- Discuss why students should use π instead of substituting 3.14 when writing ratios in simplest form.

Communicate the Ideas, Practise, and Apply

- Students may benefit from using algebra tiles to do #3 to #6 before writing their answers on paper.
- Provide students who require additional practice with **BLM 7–5 Section 7.3 Extra Practice**.

Math Link

- Allow students to work in pairs.
- Some students may benefit from using **Master 9 0.5 Centimetre Grid Paper** to do part a). They can write their calculations for parts b) to f) below each of their diagrams.
- Encourage students to use a calculator for parts b) to f).

Common Errors

- Some students may have difficulty drawing the tiles within the small frame.

R_x Have students use **BLM 7–2 Algebra Tile Frames**.