

Unit 1: Rational Numbers and Exponents - Review Work

Wl. p. 236 #3d)

$$\left(-2\frac{1}{3}\right) - 1\left(-3\frac{1}{2}\right)$$

Simplify; convert to improper fractions

$$= -\frac{7 \times 2}{3 \times 2} + \left(\frac{7 \times 3}{2 \times 3}\right)$$

Common denominator

$$= \frac{-14}{6} + \frac{21}{6}$$

$$= \frac{-14+21}{6} = \boxed{\frac{7}{6}}$$

conversions

$$-2\frac{1}{3} = -\left(\frac{3 \times 2 + 1}{3}\right) = -\frac{7}{3}$$

$$3\frac{1}{2} = \frac{2 \times 3 + 1}{2} = \frac{7}{2}$$

p. 246 #21.

$$a) \frac{16^4}{2^9}$$

Step 1: Thought Process  
With 16 as a base 2.

$$2^2 = 2 \times 2 = 4$$

$$2^3 = 8$$

$$2^4 = 16$$

↖ 16 as a base 2

Step 2:

now replace

16 with  $2^4$ .

$$\frac{16^4}{2^9} = \frac{(2^4)^4}{2^9} = \frac{2^{4 \times 4}}{2^9} = \frac{2^{16}}{2^9} = 2^{16-9} = \boxed{2^7}$$

$$= 2^7 = \boxed{128}$$

Simplified!

evaluated!