

Homework Questions

p.30 #1-18

17, 18, 16, 12, 4

$$4. \left(\frac{3}{4}\right)(-10)(-8)\left(\frac{1}{5}\right)$$

$$\frac{3(-10)(-8)}{4(5)} = \boxed{12}$$

$$16. (-9)^2(-2+2)(-5)$$

$$(-9)^2(0)(-5) = \boxed{0}$$

$$12. 17(13) + 17(-7)$$

$$-221 - 119$$

$$\boxed{-340}$$

$$17. (-2)(1-2x-3x^2)$$

$$-2 + 4x + 6x^2$$

$$\boxed{6x^2 + 4x - 2}$$

$$18. \left(\frac{-3}{1}\right)\left(2a - \frac{2}{3}\right)$$

$$-6a + \frac{6}{3}$$

$$\boxed{-6a + 2}$$

Homework Assessment
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$$10. \left(-\frac{1}{2}\right)(4r)(-s)$$

Division

notation:

$$\frac{3}{4} \quad \text{or} \quad 3 \div 4$$

Like addition and subtraction, you can convert between multiplication and division

$$3 \cdot \frac{1}{4} = \frac{3}{4} = 3 \div 4$$

$$3 \div 4 = 3 \cdot \frac{1}{4}$$

$$3 \cdot 4 = 3 \div \frac{1}{4}$$

$$\boxed{3 \div \frac{1}{4} = 3 \cdot 4}$$

reciprocal means flip it.
 numerator becomes denominator
 denominator becomes numerator

division = multiplying by reciprocal
 multiplication = dividing by reciprocal

examples:

$$\begin{array}{l}
 -35 \div (-7)(-5) \\
 5(-5) \\
 -25
 \end{array}
 \left\{
 \begin{array}{l}
 -72 \div [-6 \div (-\frac{2}{3})] \\
 -72 \div [-6 \cdot -\frac{3}{2}] \\
 -72 \div [\frac{18}{2}] \\
 -72 \div 9 \\
 \textcircled{-8}
 \end{array}
 \right.$$

your turn!

1. $-100 \div 25 \div (-\frac{1}{2}) = 8$

2. $24 \div (-\frac{2}{3})(-\frac{1}{4}) \div 27 = \frac{1}{3}$

stuff inside division

when there is a lot going on in the numerator and denominator, simplify each before you do the division

$$\frac{-9 \div -3}{(-1)^2(-3)}$$

$$\frac{3}{-3} = (-1)$$

$$\frac{7(2-15) + 1}{-(-6)^2 \div 2}$$

$$\frac{7(-13) + 1}{-36 \div 2}$$

$$\frac{-91 + 1}{-18} = \frac{-90}{-18} = (5)$$

$$\frac{\left[\frac{4}{9} + \left(+\frac{2}{9}\right)\right] \left[\frac{2}{3} + \left(-\frac{2}{3}\right)\right]^2}{\frac{5}{9} \div \left(-\frac{10}{3}\right)}$$

$$\frac{\left[\frac{6}{9}\right] \left[\frac{4}{3}\right]^2}{\frac{5}{9} \cdot \frac{-3}{10}} = \frac{\frac{2}{3} \cdot \frac{16}{9}}{\frac{-15}{90}} = \frac{\frac{32}{27}}{-\frac{1}{6}}$$

$$\frac{32}{27} \cdot \frac{-6}{1} = \left(-\frac{64}{9}\right)$$

your turn!

$$1. \frac{-9(11) + 43}{1 - (-3)^3} = 2$$

$$2. \frac{(-12)\left(-\frac{3}{4} - \frac{1}{2}\right)}{\frac{5}{9} \div 10} = 270$$

what if you can't simplify the numerator to a single term?

$$\frac{48 - 12x^2}{-3} = -16 + 4x^2 = \textcircled{4x^2 - 16}$$

divide each term in the numerator by the denominator!

$$\frac{3 - (-x)^2}{-1} = \frac{3 - x^2}{-1} = -3 + x^2 = \textcircled{x^2 - 3}$$

your turn!

$$1. \frac{2x^2 - 5x - 1}{-1}$$

$$2. \frac{8x^3 - 16x + 56}{-8}$$