

## Second Set of Homework for Math 05

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**Please note:** You should fully justify your answers.

### 1 Multiplication and division of signed numbers

1. Multiply:

(a)  $4(-3) = -12$

(b)  $(-5)(11) = -55$

(c)  $-8 \cdot 9 = -72$

(d)  $(-4)\left(\frac{3}{7}\right) = -\frac{12}{7}$

(e)  $-2(-13) = 26$

(f)  $\left(-\frac{7}{10}\right)\left(\frac{5}{21}\right) = -\frac{1}{6}$

(g)  $0(-21) = 0$

(h)  $-\frac{4}{7} \cdot 0 = 0$

(i)  $-\frac{6}{7}\left(-\frac{14}{33}\right) = \frac{4}{11}$

(j)  $(-3)(-2)(-4) = -24$

(k)  $2(-7)(-10)(-1) = -140$

(l)  $\frac{12}{7}\left(-\frac{14}{15}\right)\left(-\frac{25}{16}\right) = \frac{5}{2}$

2. Divide:

(a)  $\frac{-60}{6} = -10$

(b)  $\frac{-33}{-3} = 11$

(c)  $\frac{0}{-4} = 0$

(d)  $\frac{-5}{0} = \frac{-1}{0}$

(e)  $\frac{-60}{40} = \frac{-3}{2}$

(f)  $\frac{-36}{-27} = \frac{4}{3}$

(g)  $\frac{-\frac{3}{2}}{-2} = \frac{1}{3}$

(h)  $-\frac{7}{10} \div \frac{14}{25} = \frac{-5}{4}$

(i)  $\frac{7}{12} \div \left(-\frac{21}{36}\right) = -1$

(j)  $\frac{-\frac{5}{8}}{-\frac{5}{16}} = 2$

## 2 Order of operations

1. Evaluate each of the following expressions:

(a)  $(-1)^2$      **1**

(b)  $(-1)^9$      **-1**

(c)  $-3^2$      **-9**

(d)  $(-2)^2$      **4**

(e)  $-(-2)^4$      **-16**

(f)  $-(-3)^3$      **27**

(g)  $-2^5$      **-32**

(h)  $(-2)^5$      **-32**

(i)  $(2 \cdot 3)^2$      **36**

(j)  $2^2 3^2$      **36**

(k)  $(6 + 9) \cdot 4$      **60**

(l)  $-3(5 - 8)$      **9**

(m)  $6 \cdot 7 + 3 \cdot 2$      **48**

(n)  $5 \cdot 9 - 4 \cdot 8$      **13**

(o)  $3 \cdot 5^2 - 7$      **68**

(p)  $4(-7 + 12)^2$      **100**

(q)  $2 + 3(3 - 5)^2$      **14**

(r)  $7 - 2(4 - 5)^3$      **9**

(s)  $-8 + 2(9 - 7)^2$      **0**

(t)  $2 + 8 \div 4 \cdot 2$      **6**

(u)  $-2((5 - 7)^2 - (-3 + 1)^3(6 \div 2 \cdot 3))$      **-152**

(v)  $(-15 - 3^2 + (-3)^2 - 3) \div 9$      **-2**