

## ALGEBRA REVIEW WORKSHEET ANSWERS

1. Given that  $a = 3$ ,  $b = -2$ ,  $c = 4$ ,  $d = \frac{1}{2}$  and  $e = \frac{3}{4}$ , evaluate each of the following.

(a) $a + 2b - c$	(b) $(a + b)c$	(c) $a^2 - c^2$	(d) $\frac{e}{a - d}$
<b>-5</b>	<b>4</b>	<b>-7</b>	<b><math>\frac{3}{10}</math></b>

2. Use a calculator to evaluate each of the following.

(a) $-82 \times (-3.1) - 14.4 \div 60$	(b) $(125.9 - 48.7) \times \left(-12\frac{3}{4}\right)$
<b>253.96</b>	<b>-984.3</b>

(c) $\frac{-\frac{4}{5} + \frac{7}{8}}{2\frac{4}{5} \times 5\frac{5}{14}}$	(d) $\frac{-2.02 - 3.5}{-18 + \sqrt{17.64}}$
<b>0.005</b>	<b>0.4</b>

3. Simplify each of the following expressions.

(a) $5y - 4(x - y)$	(b) $2(7 - m) - 5(3 - 2m)$
<b><math>9y - 4x</math></b>	<b><math>8m - 1</math></b>

(c) $8k + 3[h - 2(k - h)]$	(d) $4p - [2 - 3(p - q)]$
<b><math>2k + 9h</math></b>	<b><math>7p - 3q - 2</math></b>

(e) $-2[4.8x - 0.2(3 + x)]$	(f) $\frac{1}{3}(6x - 3y) - \frac{1}{4}(12x - 8y)$
<b><math>-9.2x + 1.2</math></b>	<b><math>-x + y</math></b>

4. Simplify each of the following expressions.

(a) $\frac{4p}{7} + \frac{2-p}{7} - \frac{p-1}{7}$	(b) $\frac{3k}{5} + \frac{k+1}{2}$	(c) $\frac{3m}{4} + \frac{m+1}{3} - \frac{m}{2}$
<b><math>\frac{2p+3}{7}</math></b>	<b><math>\frac{11k+5}{10}</math></b>	<b><math>\frac{7m+4}{12}</math></b>

(d) $\frac{x-5}{6} - \frac{1-x}{3}$	(e) $\frac{4x}{5} - \frac{2(x-1)}{3}$	(f) $\frac{x+y}{8} - \frac{y-2x}{12}$
<b><math>\frac{3x-7}{6}</math></b>	<b><math>\frac{2x+10}{15}</math></b>	<b><math>\frac{7x+y}{24}</math></b>

5. Factorise each of the following algebraic expressions.

(a) $10x - 6y$	(b) $-18ax - 12ay$
<b><math>2(5x - 3y)</math></b>	<b><math>-6a(3x + 2y)</math></b>

(c) $3y(a - 5b) + 2(5b - a)$	(d) $7x + 7 - 5ax - 5a$
<b><math>(a - 5b)(3y - 2)</math></b>	<b><math>(x + 1)(7 - 5a)</math></b>

(e) $2hx - 15y - 5x + 6hy$	(f) $px - 6q + 3p - 2qx$
<b><math>(2h - 5)(x + 3y)</math></b>	<b><math>(x + 3)(p - 2q)</math></b>