

Revision & Practice Worksheet 8

A Algebra: Solving equations by removing more than two numbers

1 $\frac{2x+1}{3} + 2 = 6$	2 $\frac{5x+1}{4} - 2 = -2$	3 $\frac{6x+1}{3} + 2 = -11$
4 $\frac{x-4}{2} - 6 = -11$	5 $\frac{3(x-1)}{4} = 9$	6 $\frac{4(x+2)}{7} = 28$
7 $\frac{3(x+2)}{5} = 15$	8 $\frac{4(x+2)}{7} - 1 = 8$	9 $\frac{2(x-2)}{5} + 1 = 9$
10 $\frac{3(x+5)}{7} - 1 = 6$	11 $\frac{4(2x+1)}{5} + 7 = 17$	12 $\frac{3(3x+1)}{7} + 1 = 7$

B Algebra: Transposing equations

For each of the following make a the subject:

1 $a + b = c$	2 $3a = 4c$	3 $2a + 1 = 3c$
4 $a(b + c) = 4$	5 $b(a + c) = d$	6 $c(a - b) = 5$
7 $5a + 6 = 3b$	8 $2a - c = e$	9 $a + 3b = 2c$
10 $\frac{a}{2} + b = c$	11 $\frac{a}{3} - b = e$	12 $\frac{2a}{3} + b = e$

C Algebra: Dividing algebraic terms

1 $2ab + 3b$	2 $5abc + 7b$	3 $12a + 3b$
4 $5ab + 4bc$	5 $6bc + 7cd$	6 $9bcd + 12de$
7 $10abc + 5ae$	8 $19abc + abc$	9 $\frac{21abc}{7ce}$
10 $\frac{13abe}{4e}$	11 $\frac{14ace}{7cf}$	12 $\frac{15aec}{5ad}$
13 $\frac{21abc}{7be}$	14 $\frac{18ab}{3bc}$	15 $\frac{22abe}{11ef}$
16 $\frac{32abc}{2be}$	17 $\frac{19abc}{2be}$	18 $\frac{15abe}{5e}$

D Indices: Simplifying fraction expressions

1 $\frac{a^2b^3}{c} \times \frac{a^4b}{c^2}$	2 $a^4c \times \frac{a^3b^4}{c^4}$	3 $\frac{a^5c^4}{b^2} \times \frac{ac}{b}$
4 $\frac{a^2b^4}{c} \times \frac{a^2b}{c}$	5 $\frac{6a^2b}{ab} \times \frac{a^3}{b}$	6 $\frac{4a^2b}{ab} \times \frac{b^2}{a}$
7 $\frac{a^2b^3}{a} + \frac{b^4}{a}$	8 $\frac{2a^2b}{a^2} + \frac{a}{b^2}$	9 $\frac{8a^4b}{a^2} + \frac{5a^2}{b}$
10 $\frac{6a^2b}{2a} + \frac{3a}{4b}$	11 $\frac{4ab^2}{2a} + \frac{3b^2}{a}$	12 $\frac{2ab}{b^2} + \frac{a}{b}$

E Indices: Expanding brackets with Indices

1 $\left(\frac{a^2}{b}\right)^3$	2 $\left(\frac{a^4}{b^2}\right)^3$	3 $\left(\frac{2a}{b^2}\right)^2$	4 $\left(\frac{3a^2}{b^4}\right)^3$
5 $\frac{(3a^2)^2}{b^3}$	6 $\left(\frac{6a^2}{b^4}\right)^2$	7 $\left(\frac{2a^2b}{b^4}\right)^2$	8 $\left(\frac{3a^2b^2}{2ab}\right)^3$
9 $\left(\frac{2ab}{3a^2b}\right)^2$	10 $\left(\frac{a^3b}{2ab^2}\right)^3$	11 $\left(\frac{ab^4}{a^2b}\right)^5$	12 $\left(\frac{a^2b^3}{2a^4b^6}\right)^3$

Worksheet 8

A 1 $5\frac{1}{2}$ 2 $-\frac{1}{5}$ 3 $-6\frac{2}{3}$ 4 -6 5 13
 6 47 7 23 8 $13\frac{3}{4}$ 9 22 10 $11\frac{1}{3}$
 11 $5\frac{3}{4}$ 12 $4\frac{1}{3}$

B 1 $a=c-b$ 2 $a=\frac{4c}{3}$ 3 $a=\frac{3c-1}{2}$
 4 $a=\frac{4}{b+c}$ 5 $a=\frac{d}{b}-c$ 6 $a=\frac{5}{c}+b$
 7 $a=\frac{3b-6}{5}$ 8 $a=\frac{e+c}{2}$ 9 $a=2c-3b$
 10 $a=2(c-b)$ 11 $a=3(b+e)$ 12 $a=\frac{3}{2}(e-b)$

C 1 $\frac{2a}{3}$ 2 $\frac{5ac}{7}$ 3 $\frac{4a}{b}$ 4 $\frac{5a}{4c}$ 5 $\frac{6b}{7d}$
 6 $\frac{3bc}{4e}$ 7 $\frac{2bc}{e}$ 8 19 9 $\frac{3ab}{e}$ 10 $\frac{13ab}{4}$
 11 $\frac{2ae}{f}$ 12 $\frac{3ec}{d}$ 13 $\frac{3ac}{e}$ 14 $\frac{6a}{c}$ 15 $\frac{2ab}{f}$
 16 $\frac{16ac}{e}$ 17 $\frac{19ac}{2e}$ 18 $3ab$

D 1 $\frac{a^6b^4}{c^3}$ 2 $\frac{a^7b^4}{c^3}$ 3 $\frac{a^6c^5}{b^3}$ 4 $\frac{a^4b^5}{c^2}$ 5 $\frac{6a^4}{b}$
 6 $4b^2$ 7 $\frac{a^2}{b}$ 8 $\frac{2b^3}{a}$ 9 $\frac{8b^2}{5}$ 10 $4b^2$
 11 $\frac{2a}{3}$ 12 2

E 1 $\frac{a^6}{b^3}$ 2 $\frac{a^{12}}{b^6}$ 3 $\frac{4a^2}{b^4}$ 4 $\frac{9a^6}{b^{12}}$ 5 $\frac{9a^4}{b^3}$
 6 $\frac{36a^4}{b^8}$ 7 $\frac{4a^4}{b^6}$ 8 $\frac{27a^3b^3}{8}$ 9 $\frac{4}{9a^2}$
 10 $\frac{a^6}{8b^3}$ 11 $\frac{b^{15}}{a^5}$ 12 $\frac{1}{8a^6b^9}$