BUILDING UP EXPRESSIONS

Build up an expression by following the instructions on the flow charts.

a

$$x \xrightarrow{\times 5} 5x \xrightarrow{-2} \boxed{}$$

b

$$x \xrightarrow{\div 3} \frac{x}{3} \xrightarrow{+1} \boxed{}$$

c

$$x \xrightarrow{\times 2} \boxed{} \xrightarrow{+7} \boxed{}$$

d

$$x \xrightarrow{\div 5} \boxed{} \xrightarrow{+11} \boxed{}$$

e

$$x \xrightarrow{\times \frac{1}{2}} \boxed{} \xrightarrow{-3} \boxed{}$$

f

$$x \xrightarrow{\div 8} \boxed{} \xrightarrow{-2} \boxed{}$$
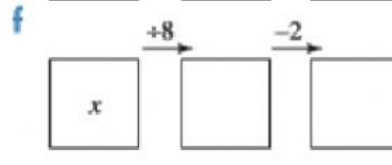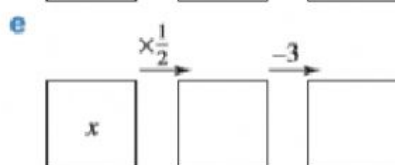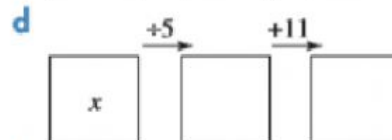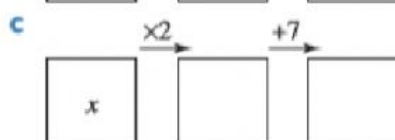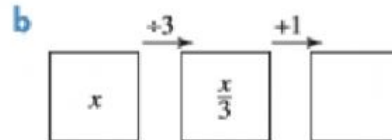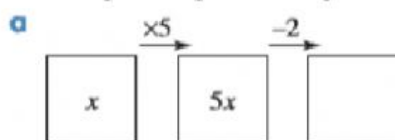
Build up an expression by following the instructions on the flow charts. Use a grouping device, such as a pair of brackets or a vinculum; for example $2(x + 3)$ or $\frac{x-5}{4}$.

a

$$x \xrightarrow{+5} \boxed{} \xrightarrow{\times 4} \boxed{}$$

b

$$x \xrightarrow{+10} \boxed{} \xrightarrow{\div 3} \boxed{}$$

c

$$x \xrightarrow{-2} \boxed{} \xrightarrow{+7} \boxed{}$$

d

$$x \xrightarrow{+3} \boxed{} \xrightarrow{\times 9} \boxed{}$$

e

$$x \xrightarrow{-2.1} \boxed{} \xrightarrow{\times 3} \boxed{}$$
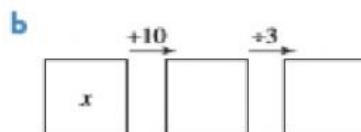
f

$$x \xrightarrow{+4.9} \boxed{} \xrightarrow{\div 5} \boxed{}$$

g

$$x \xrightarrow{-\frac{1}{2}} \boxed{} \xrightarrow{\times 7} \boxed{}$$

h

$$x \xrightarrow{-3.1} \boxed{} \xrightarrow{+1.8} \boxed{}$$
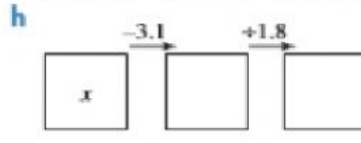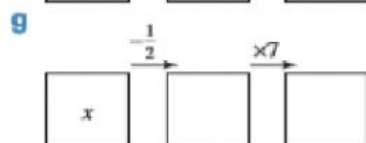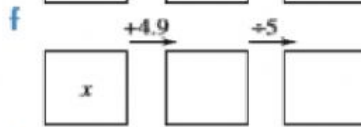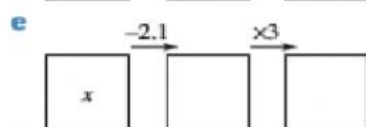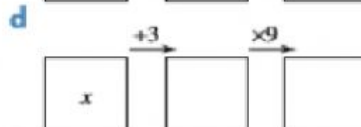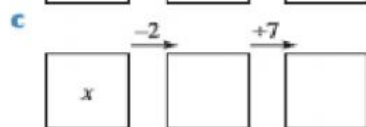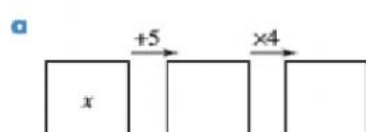
Copy and complete the following flow charts by filling in the missing expressions.

a

$$x \xrightarrow{+2} \boxed{} \xrightarrow{\times 6} \boxed{}$$

b

$$x \xrightarrow{\times 3} \boxed{} \xrightarrow{-2} \boxed{}$$

c

$$x \xrightarrow{-8} \boxed{} \xrightarrow{\div 12} \boxed{}$$

d

$$x \xrightarrow{\times 4} \boxed{} \xrightarrow{+1} \boxed{}$$
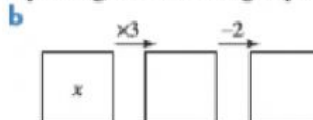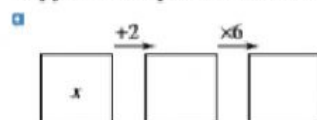
In your workbooks, draw up flowcharts whose inputs are *x* and whose outputs are shown below.

a. $5x + 2$

b. $2x - 10$

c. $\dfrac{x}{8} - 5$

d. $\dfrac{x + 1}{2}$

e. $5(x - 9)$

f. $2(x + 4)$