



Expanding Single Brackets

Semi-Abstract Stage

1 Use the grids below to calculate each of the following

a) 7×68

| | | |
|---|----|----|
| x | 60 | +8 |
| 7 | | |

b) 8×473

| | | | |
|---|-----|-----|----|
| x | 400 | +70 | +3 |
| 8 | | | |

c) 9×341

| | | | |
|---|-----|-----|----|
| x | 300 | +40 | +1 |
| 9 | | | |

d) 6×506

| | | |
|---|-----|----|
| x | 500 | +6 |
| 6 | | |

2 Use the grids below to calculate each of the following

a) 8×497

| | | |
|---|-----|----|
| x | 500 | -3 |
| 8 | | |

b) 6×894

| | | |
|---|-----|----|
| x | 900 | -6 |
| 6 | | |

c) 9×789

| | | | |
|---|-----|-----|----|
| x | 800 | -10 | -1 |
| 9 | | | |

d) 7×871

| | | | |
|---|-----|-----|----|
| x | 900 | -30 | +1 |
| 8 | | | |

3 Claire is completing some questions on expanding brackets but needs your help to complete them.

Complete the grids by writing in what Claire should put in each of the boxes containing a capital letter.

a) Expand $2(x + 1)$

| | | |
|---|----|----|
| x | x | +1 |
| 2 | 2x | A |

b) Expand $2(x + 3)$

| | | |
|---|----|----|
| x | x | +3 |
| 2 | 2x | B |

c) Expand $4(x + 3)$

| | | |
|---|----|----|
| x | x | +1 |
| C | 2x | D |

d) Expand $4(x + 5)$

| | | |
|---|---|-----|
| x | x | +5 |
| E | F | +20 |

e) Expand $3(x + 5)$

| | | |
|---|---|-----|
| x | x | I |
| G | H | +15 |

f) Expand $6(x + 5)$

| | | |
|---|---|---|
| x | x | L |
| J | K | M |

g) Expand $2(x + 5)$

| | | |
|---|---|---|
| x | x | P |
| N | O | Q |

i) Expand $2(x - 6)$

| | | |
|---|---|-----|
| x | x | V |
| T | U | -10 |

k) Expand $3(x - 12)$

| | | |
|---|---|---|
| x | x | C |
| A | B | D |

m) Expand $6(x - 4)$

| | | |
|---|---|---|
| x | x | K |
| I | J | L |

o) Expand $8\left(x - \frac{1}{2}\right)$

| | | |
|---|---|---|
| x | x | S |
| Q | R | T |

q) Expand $4(2x - 3)$

| | | |
|---|----|---|
| x | 2x | X |
| W | 8x | Y |

s) Expand $12(x - 1)$

| | | |
|----|---|---|
| x | D | F |
| 12 | E | G |

u) Expand $5(2x - 2)$

| | | |
|---|---|---|
| x | N | P |
| M | O | Q |

w) Expand $5(2x - 2y + 1)$

| | | | |
|---|---|-----|----|
| x | W | -2y | +1 |
| V | X | Y | Z |

h) Expand $2(x - 5)$

| | | |
|---|---|-----|
| x | x | -5 |
| R | S | -10 |

j) Expand $3(x - 6)$

| | | |
|---|---|---|
| x | x | Y |
| W | X | Z |

l) Expand $6(x - 12)$

| | | |
|---|---|---|
| x | x | G |
| E | F | H |

n) Expand $6\left(x - \frac{1}{2}\right)$

| | | |
|---|---|---|
| x | x | O |
| M | N | P |

p) Expand $4(2x - 1)$

| | | |
|---|----|---|
| x | 2x | U |
| 4 | 8x | V |

r) Expand $4(3x - 3)$

| | | |
|---|-----|---|
| x | A | B |
| Z | 12x | C |

t) Expand $6(2x - 2)$

| | | |
|---|---|---|
| x | I | K |
| H | J | L |

v) Expand $5(2x - 2y)$

| | | |
|---|---|-----|
| x | S | -2y |
| R | T | U |

x) Expand $-5(2x - 2y + 1)$

| | | | |
|----|---|---|---|
| x | A | C | E |
| -5 | B | D | F |

4 Expand each of the following

a) $3(x + 2)$

b) $6(x + 2)$

c) $12(x + 2)$

d) $6(x + 4)$

e) $6(x + 8)$

f) $8(x + 6)$

g) $4(2x + 12)$

h) $3(4x + 4)$

i) $4(4x + 3)$

j) $4(3x + 4)$

k) $5(3x + 4)$

l) $5(3x - 4)$

m) $6(3x - 4)$

n) $6(4x - 3)$

o) $12(4x - 3)$

p) $12(-3 + 4x)$

q) $12(3 + 4x)$

r) $12(3 - 4x)$

s) $12(-4x + 3)$

t) $-12(4x - 3)$

u) $-12(-4x - 3)$

5 Erin is using a grid to expand $x(x + 2)$.

| | | |
|-----|-----|------|
| x | x | $+2$ |
| x | | |

What should Erin write in the blue box? Explain your answer.

What should Erin write in the green box?

What is the final answer to the question?

6 Expand each of the following

a) $x(x + 3)$

b) $x(x + 6)$

c) $x(x - 6)$

d) $x(2x - 6)$

e) $x(3x - 6)$

f) $3x(x - 6)$

g) $4x(x - 6)$

h) $8x(x - 6)$

i) $8x(x - 4)$

j) $4x(2x - 2)$

k) $4x(2x - 3)$

l) $5x(2x - 3)$

m) $5x(2x^2 - 3)$

n) $5x^2(2x^3 - 3)$

o) $5x^2(2x^3 - 3x)$

p) $5x^2(2x^3y - 3x)$

q) $5x^2(2x^3 - 3xy)$

r) $5x^2y(2x^3 - 3x)$