

4. Simplify the expressions:

$x \times 2$

$x \times 3$

$x \times 4$

$x \times 5$

$2x$

$3x$

$4x$

$5x$

$x \times 2 \times 2$

$x \times 3 \times 2$

$x \times 4 \times 2$

$x \times 5 \times 2$

$4x$

$6x$

$8x$

$10x$

$2x \times 2$

$2x \times 3$

$2x \times 4$

$2x \times 5$

$4x$

$6x$

$8x$

$10x$

$x \times 2x$

$x \times 3x$

$x \times 4x$

$x \times 5x$

$2x^2$

$3x^2$

$4x^2$

$5x^2$

$x \times 2x \times 2$

$x \times 3x \times 2$

$x \times 4x \times 2$

$x \times 5x \times 2$

$4x^2$

$6x^2$

$8x^2$

$10x^2$

$2x \times 2x \times 2$

$2x \times 3x \times 2$

$2x \times 4x \times 2$

$2x \times 5x \times 2$

$8x^2$

$12x^2$

$16x^2$

$20x^2$

5. Simplify the expressions:

$1+1$ $1+1+1$ $1+1+1+1$ $1+1+1+1+1$

2 3 4 5

$x+1+1$ $x+1+1+1$ $x+1+1+1+1$ $x+1+1+1+1+1$

$x+2$ $x+3$ $x+4$ $x+5$

$x+x$ $x+x+x$ $x+x+x+x$ $x+x+x+x+x$

$2x$ $3x$ $4x$ $5x$

$x+x$ $x+x+1$ $x+x+1+1$ $x+x+1+1+1$

$2x$ $2x+1$ $2x+2$ $2x+3$

$2x+x$ $2x+x+2x$ $2x+x+2x+x$ $2x+x+2x+x+2x$

$3x$ $5x$ $6x$ $8x$

$x+2x$ $2x+x+2$ $2x+x+2+1$ $2x+x+2+1+1$

$3x$ $3x+2$ $3x+3$ $3x+4$

$1+2x+x$ $1+2x+x+2+2x$ $1+2x+2+x+2x+x$
 $3x+1$ $5x+3$ $6x+3$

$2x+1+x+2x+2+x+2+2x$ $2+1+x+2+2+x+2x+2+2x$
 $8x+5$ $6x+9$

$1+1+y$ $1+1+y+1$ $1+1+y+1+1$

$y+2$ $y+3$ $y+4$

$x+1+y+1$

$x+1+y+1+1$

$x+1+1+y+1+1$

$x+y+2$

$x+y+3$

$x+y+4$

$x+y+x$

$x+y+x+x$

$x+x+y+x+x$

$2x+y$

$3x+y$

$4x+y$

$x+y+y+x$

$x+y+x+1$

$x+y+x+1+1$

$2x+2y$

$2x+y+1$

$2x+y+2$

$2x+y+x+2x$

$2x+y+x+2x+x$

$2x+y+x+2x+y+x+2x$

$5x+y$

$6x+y$

$8x+2y$

$x+y+2x$

$2x+y+x+2$

$2x+x+y+2+1$

$3x+y$

$3x+y+2$

$3x+y+3$

$1+2x+2y+x$

$1+2x+x+2y+2+y+2x$

$1+2x+y+x+2x+3y+x$

$3x+2y+1$

$5x+3y+3$

$6x+4y+1$

$2x+1+y+2x+2+z+2+2x$

$2+1+y+2+2+z+2z+2+2y$

$6x+y+z+5$

$3y+3z+9$

$1+1+y^2$

$1+1+y^2+1$

$1+y^2+y+y^2+1$

y^2+2

y^2+3

$2y^2+y+2$

$$y^2+1+y+1 \qquad y^2+1+y+1+1 \qquad x^2+1+x^2+y+1+1$$

$$y^2+y+2 \qquad y^2+y+3 \qquad 2x^2+y+3$$

$$x+x^2+x \qquad x+x^2+x+x \qquad x+x^2+y+x^2+x$$

$$x^2+2x \qquad x^2+3x \qquad 2x^2+2x+y$$

$$x+y+y+x^2 \qquad x+y+x^2+1 \qquad x+x^2+x+x^2+1$$

$$x^2+x+2y \qquad x^2+x+y+1 \qquad 2x^2+2x+1$$

$$2x+y-x+x^2 \qquad 2x^2+y+x+2x^2-x \qquad 2x+y-2x^2+2x+y+2x^2+2x$$

$$x^2+x+y \qquad 4x^2+y \qquad 6x+2y$$

$$x+y+y+2y-x-y+2x^2 \qquad 2x^2+y+2x^2+2-x^2$$

$$2x^2+3y \qquad 3x^2+y+2$$

$$1+2x+2y-x+x^2+y^2 \qquad 1+2x+x+2y+2+y+2x-x+x^2+y^2$$

$$x^2+y^2+x+2y+1 \qquad x^2+y^2+4x+3y+1$$

$$1+2x+y+x+2x+3y+x-x+x^2+y^2 \qquad 2x+1+y+2x+2+z+2+2x-x+x^2+y^2$$

$$x^2+y^2+5x+4y+1 \qquad x^2+y^2+5x+y+z+5$$

6. Work out the products

$$1 \times 1 \qquad 1 \times 2 \qquad 1 \times 3 \qquad 1 \times 4$$

$$1 \qquad 2 \qquad 3 \qquad 4$$

$$(1+1) \times 1 \qquad (1+1) \times 2 \qquad (1+1) \times 3 \qquad (1+1) \times 4$$

$$2 \qquad 4 \qquad 6 \qquad 8$$

$1 \times 1 + 1 \times 1$

2

$(1+2) \times 1$

3

$1 \times 1 + 2 \times 1$

3

$(1+3) \times 1$

4

$1 \times 1 + 3 \times 1$

4

$(1+4) \times 1$

5

$1 \times 1 + 4 \times 1$

5

$1 \times 2 + 1 \times 2$

4

$(1+2) \times 2$

6

$1 \times 2 + 2 \times 2$

6

$(1+3) \times 2$

8

$1 \times 2 + 3 \times 2$

8

$(1+4) \times 2$

10

$1 \times 2 + 4 \times 2$

10

$1 \times 3 + 1 \times 3$

6

$(1+2) \times 3$

9

$1 \times 3 + 2 \times 3$

9

$(1+3) \times 3$

12

$1 \times 3 + 3 \times 3$

12

$(1+4) \times 3$

15

$1 \times 3 + 4 \times 3$

15

$1 \times 4 + 1 \times 4$

8

$(1+2) \times 4$

12

$1 \times 4 + 2 \times 4$

12

$(1+3) \times 4$

16

$1 \times 4 + 3 \times 4$

16

$(1+4) \times 4$

20

$1 \times 4 + 4 \times 4$

20

$(x+1) \times 2$

$2x+2$

$(x+2) \times 2$

$2x+4$

$(x+3) \times 2$

$2x+6$

$(2x+1) \times 2$

$(2x+2) \times 2$

$(2x+3) \times 2$

$4x+2$

$4x+4$

$4x+6$

$(x+1) \times x$

$(x+2) \times x$

$(x+3) \times x$

x^2+x

x^2+2x

x^2+3x

$(2x+1) \times x$

$(2x+2) \times x$

$(2x+3) \times x$

$2x^2+x$

$2x^2+2x$

$2x^2+3x$

$(x+1) \times 2x$

$(x+2) \times 2x$

$(x+3) \times 2x$

$2x^2+2x$

$2x^2+4x$

$2x^2+6x$

$(2x+1) \times 2x$

$(2x+2) \times 2x$

$(2x+3) \times 2x$

$4x^2+2x$

$4x^2+4x$

$4x^2+6x$