1 $(x - 4) \cdot (x + 3) = 0$

$x-4 = 0$ $\quad$ $x + 3 = 0$

$x = 4$ $\quad$ $x = -3$

2 $x \cdot (x - 7) = 0$

$x = 0$ $\quad$ $x - 7 = 0$

$x = 7$

3 $(2x - 1) \cdot (3x + 1) = 0$

$2x-1 = 0$ $\quad$ $3x+1 = 0$

$2x = 1$ $\quad$ $3x = -1$

$x = ½$ $\quad$ $x = -1/3$

4 $3x \cdot (2x - 5) = 0$

$x = 0$ $\quad$ $2x - 5 = 0$

$2x = 5$

$x = 5/2$

1) $(x - 4) \cdot (x + 3) = 0$

$x \cdot (x - 7) = 0$

$(2x - 1) \cdot (3x + 1) = 0$

$3x \cdot (2x - 5) = 0$

$(x - 5)^2 = 0$

5 $(x - 5)^2 = 0$

$(x-5)(x-5) = 0$

$\downarrow$

$x - 5 = 0$

$x = 5$

$S = \{5\}$

6

2)

2) $2x \cdot (3x + 5)^2 = 0$

$2 \cdot (5x + 7) = 0$

$x \cdot (5 - 2x) \cdot (2x - 7) = 0$

$-3x \cdot (2 + 3x) = 0$

$(x + 1) \cdot (x^2 - 4) = 0$

2

1 $2x \cdot (3x + 5)^2 = 0$

$2x\,(3x+5)(3x+5) = 0$

$x = 0$

$3x + 5 = 0$

$3x = -5$

$x = \frac{-5}{3}$

$S = \left\{-\frac{5}{3}\,;0\right\}$

2 $2 \cdot (5x + 7) = 0$

3 $x \cdot (5 - 2x) \cdot (2x - 7) = 0$

4 $-3x \cdot (2 + 3x) = 0$

$-3x = 0$

$x = 0$

$2 + 3x = 0$

$3x = -2$

$x = \frac{-2}{3}$

$-2 - 3x = 0$

$-3x = 2$

$x = \frac{-2}{3}$

2 ★5

$(x + 1) \cdot (x^2 - 4) = 0$

$(x+1)(x+2)(x-2) = 0$

$x+1=0$ $\quad$ $x+2=0$ $\quad$ $x-2=0$

$x=-1$ $\quad$ $x=-2$ $\quad$ $x=2$

$S = \{-2 ; -1 ; 2\}$

$x^2 - 4 = 0$

$x^2 = 4$

$x = 2$

manque une solution

★6

3

$x^2 - 14x + 49 = 0$

$x^3 - 4x^2 = 0$

$9x^2 - 4 = 0$

$5x^2 - 20x + 20 = 0$

$3x^3 - 27x = 0$

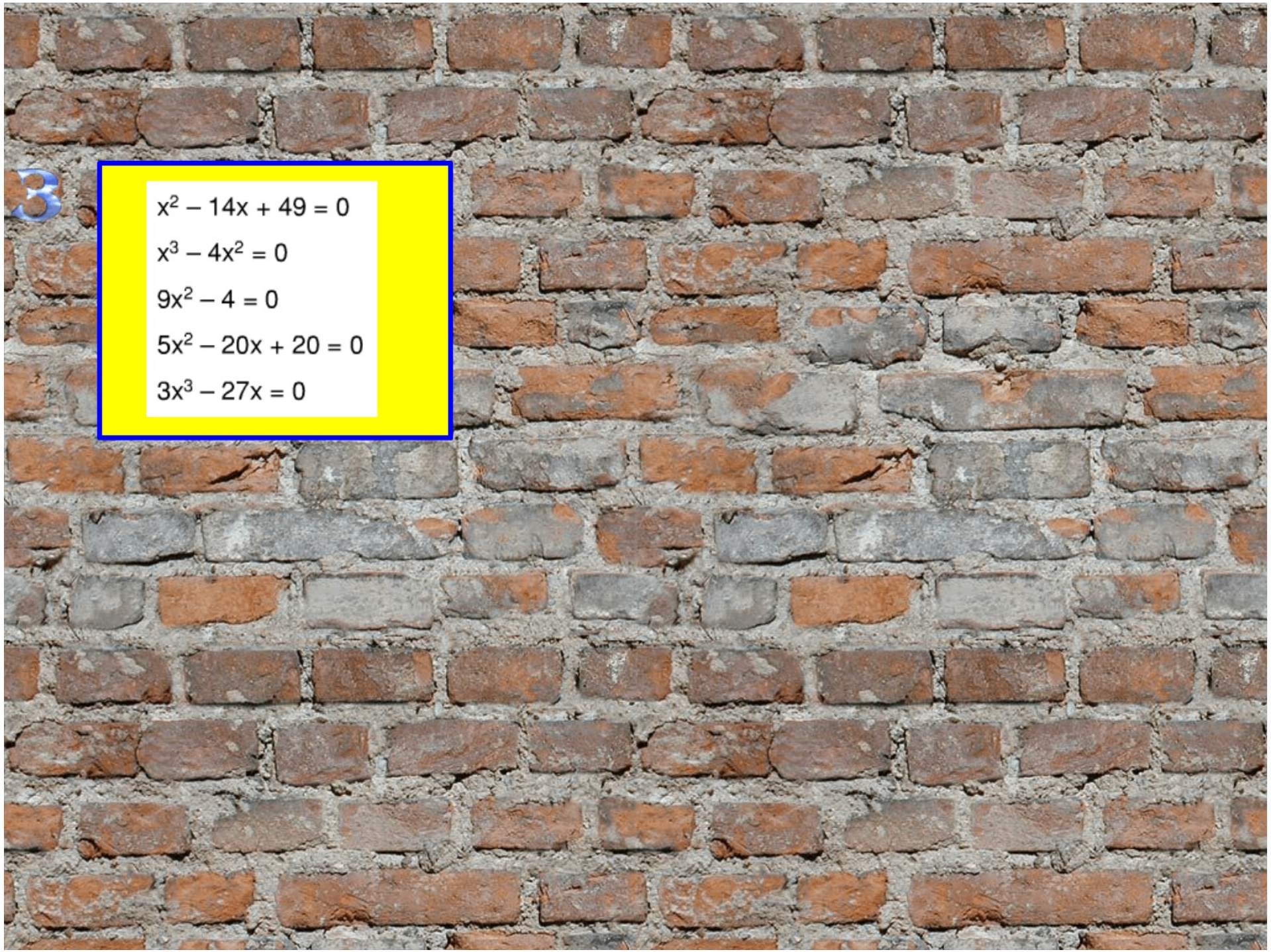
3) $x^2 - 14x + 49 = 0$

$x^3 - 4x^2 = 0$

$9x^2 - 4 = 0$

$5x^2 - 20x + 20 = 0$

$3x^3 - 27x = 0$


3
$x^2 - 14x + 49 = 0$
$x^3 - 4x^2 = 0$
$9x^2 - 4 = 0$
$5x^2 - 20x + 20 = 0$
$3x^3 - 27x = 0$

3

1 $x^2 - 14x + 49 = 0$

x ; 7 ; $2 \cdot x \cdot 7$

$(x-7)^2 = 0$

$x - 7 = 0$

$x = 7$

$S = \{7\}$

2 $x^3 - 4x^2 = 0$

$x^2(x-4) = 0$

$x^2 = 0$; $x - 4 = 0$

$x = 0$; $x = 4$

$S = \{0; 4\}$

3 $9x^2 - 4 = 0$

$3x$; 2

$(3x+2)(3x-2) = 0$

$3x + 2 = 0$; $3x - 2 = 0$

$3x = -2$; $3x = 2$

$x = -\frac{2}{3}$; $x = \frac{2}{3}$

$S = \left\{-\frac{2}{3}; \frac{2}{3}\right\}$

4 $5x^2 - 20x + 20 = 0$

$5(x^2 - 4x + 4) = 0$

x ; 2

$5(x-2)^2 = 0$

$x - 2 = 0$

$x = 2$

$S = \{2\}$

5 $3x^3 - 27x = 0$

$3x(x^2 - 9) = 0$

$3x(x+3)(x-3) = 0$

$x = 0$ $x+3 = 0$ $x-3 = 0$

$x = 0$ $x = -3$ $x = 3$

3

6

4

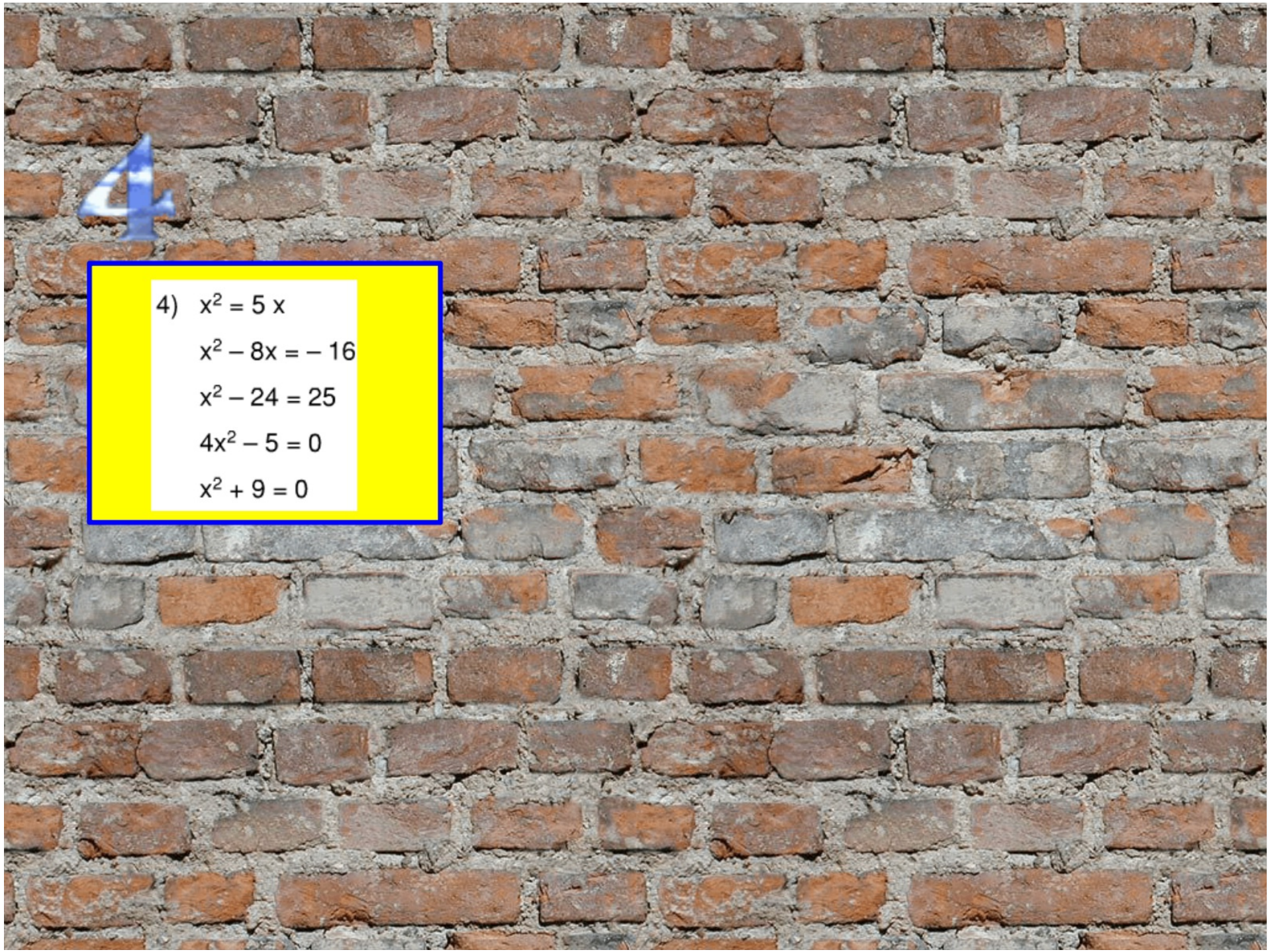
4) $x^2 = 5x$

$x^2 - 8x = -16$

$x^2 - 24 = 25$

$4x^2 - 5 = 0$

$x^2 + 9 = 0$


4
4) $x^2 = 5x$
$x^2 - 8x = -16$
$x^2 - 24 = 25$
$4x^2 - 5 = 0$
$x^2 + 9 = 0$

4

1 $x^2 = 5x$

$x^2 - 5x = 0$

$x(x - 5) = 0$

$x = 0$ ou $x - 5 = 0$

$x = 5$

$S = \{0 ; 5\}$

2 $x^2 - 8x = -16$

$x^2 - 8x + 16 = 0$

x ; 4

$(x - 4)^2 = 0$

$x - 4 = 0$

$x = 4$

$S = \{4\}$

3 $x^2 - 24 = 25$

$x^2 - 24 - 25 = 0$

$x^2 - 49 = 0$

$(x)^2 - 7^2 = 0$

$(x + 7)(x - 7) = 0$

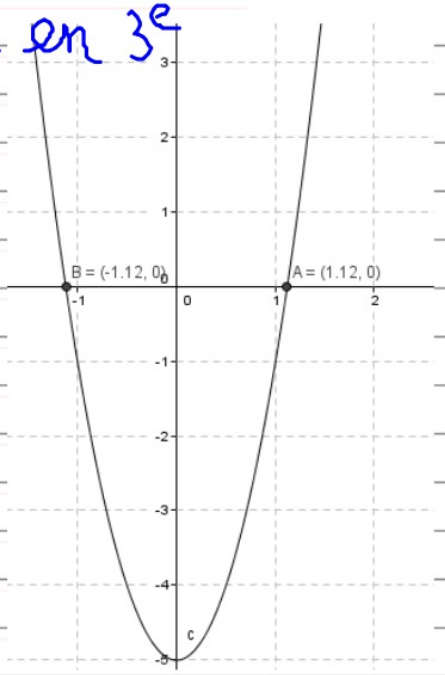
$x + 7 = 0$ ou $x - 7 = 0$

$x = -7$; $x = 7$

$S = \{-7 ; 7\}$

4 $4x^2 - 5 = 0$

pas factorisable en 3e



5 $x^2 + 9 = 0$

pas factorisable

4

6

5

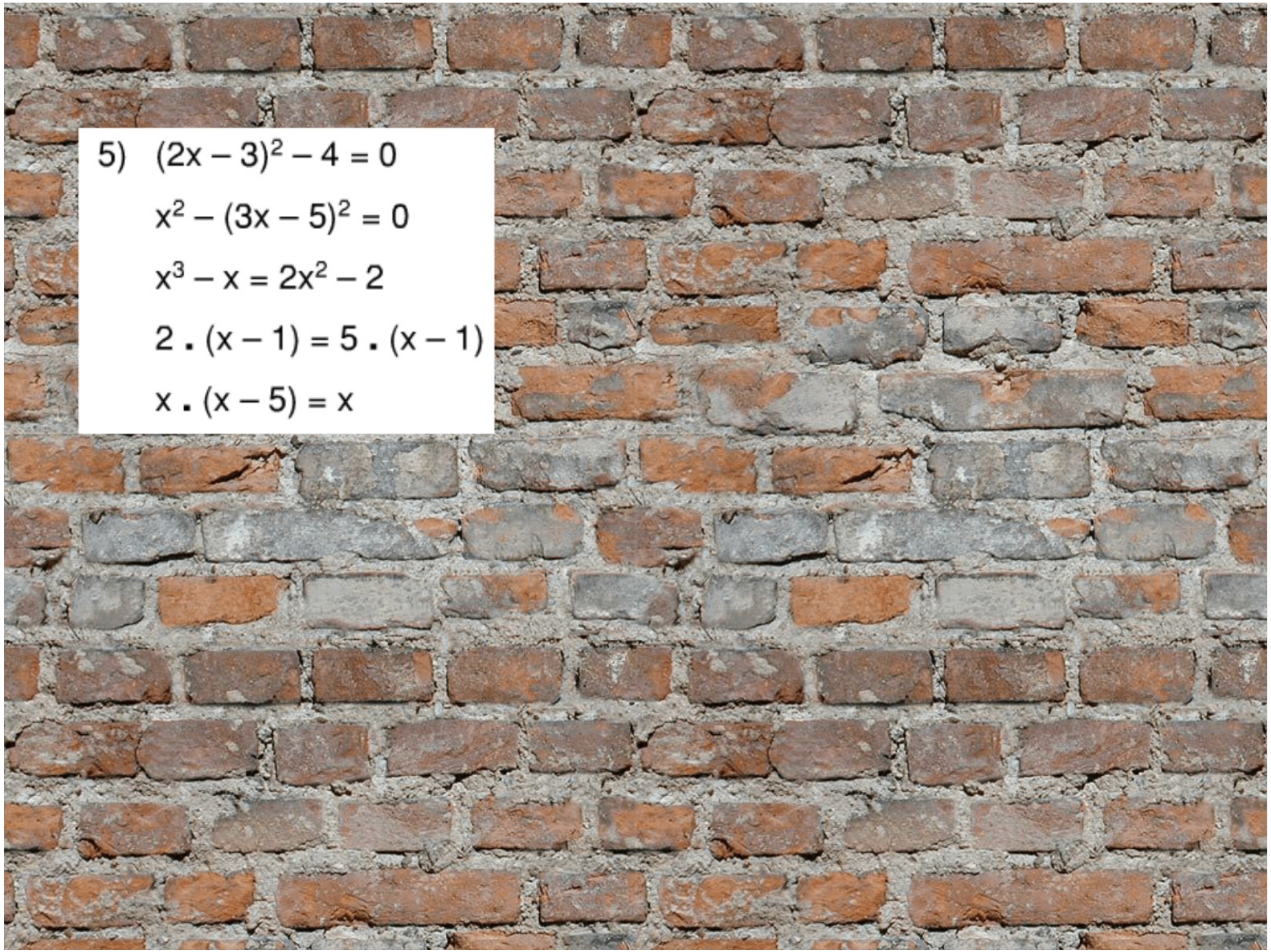
$(2x - 3)^2 - 4 = 0$

$x^2 - (3x - 5)^2 = 0$

$x^3 - x = 2x^2 - 2$

$2 \cdot (x - 1) = 5 \cdot (x - 1)$

$x \cdot (x - 5) = x$


5) $(2x - 3)^2 - 4 = 0$
$x^2 - (3x - 5)^2 = 0$
$x^3 - x = 2x^2 - 2$
$2 \cdot (x - 1) = 5 \cdot (x - 1)$
$x \cdot (x - 5) = x$

5

1 $(2x-3)^2 - 4 = 0$

$2x-3$; 2

$(2x-3+2)(2x-3-2)=0$

$(2x-1)(2x-5)=0$

$2x-1=0$ ou $2x-5=0$

$x=\frac{1}{2}$; $x=\frac{5}{2}$

$S=\left\{\frac{1}{2};\frac{5}{2}\right\}$

2 $x^2 - (3x-5)^2 = 0$

x ; $3x-5$

$(x+3x-5)(x-(3x-5))=0$

$(4x-5)(x-3x+5)=0$

$(4x-5)(-2x+5)=0$

$4x-5=0$ ou $-2x+5=0$

$x=\frac{5}{4}$; $x=\frac{5}{2}$

$S=\left\{-\frac{5}{2};\frac{5}{4}\right\}$

3 $x^3 - x = 2x^2 - 2$

$x^3-2x^2-x+2=0$

$x^2(x-2)-(x-2)\cdot 1=0$

$(x-2)(x^2-1)=0$

$(x-2)(x+1)(x-1)=0$

$x-2=0$ ou $x+1=0$ ou $x-1=0$

$x=2$; $x=-1$; $x=1$

4 $2\cdot(x-1) = 5\cdot(x+1)$

$2(x-1)-5(x-1)=0$

$(x-1)(2-5)=0$

$(x-1)(-3)=0$

$-3(x-1)=0$

$-3 \neq 0$ donc $x-1=0 \Leftrightarrow x=1$

5

$x \cdot (x - 5) = x$

$x(x-5) - x = 0$

$x(x-5-1) = 0$

$x(x-6) = 0$

$x = 0$ ou $x - 6 = 0$

$x = 6$

$S = \{0; 6\}$

$(0;0)$ $(6;0)$

6

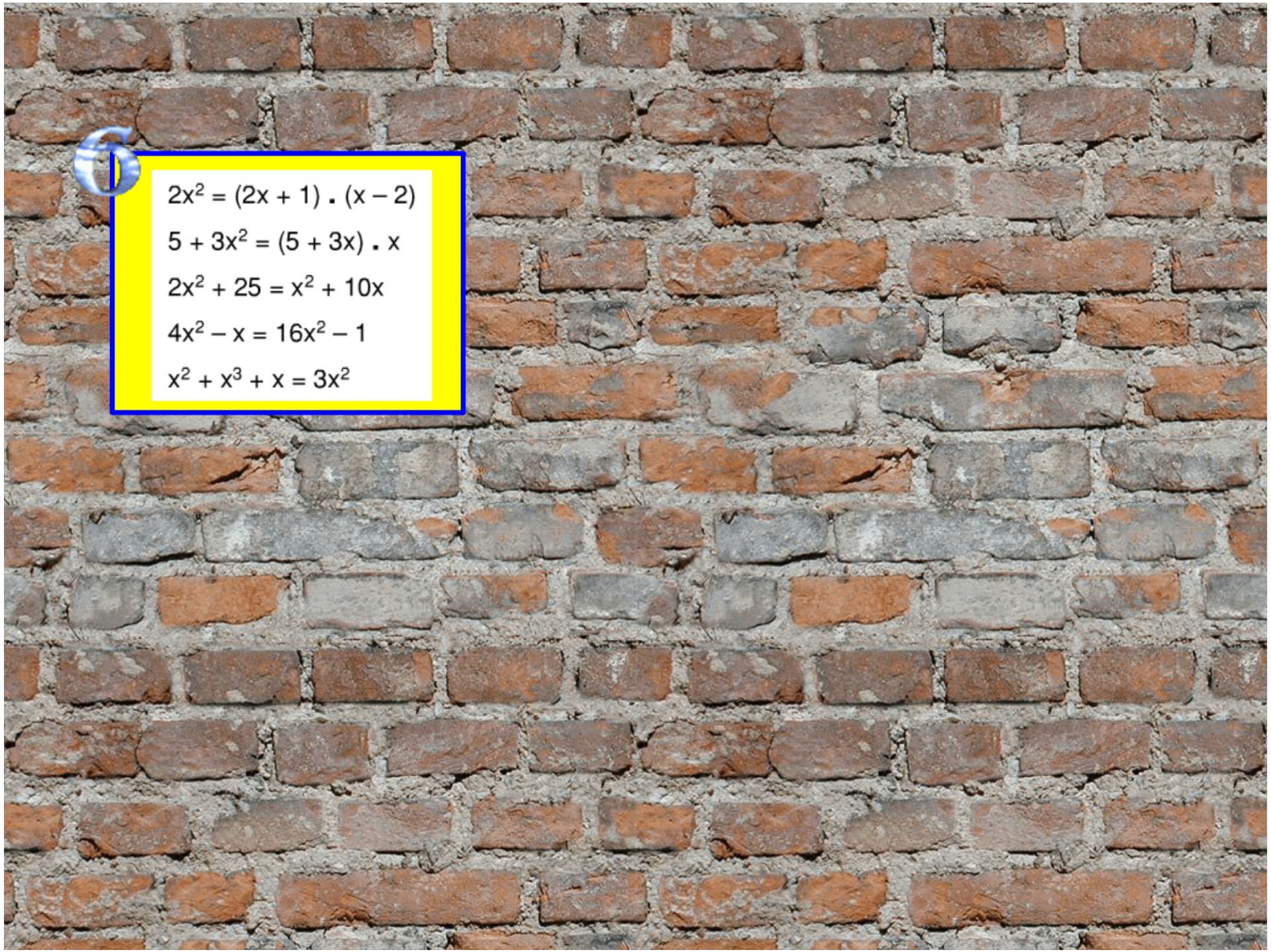
$2x^2 = (2x + 1) \cdot (x - 2)$

$5 + 3x^2 = (5 + 3x) \cdot x$

$2x^2 + 25 = x^2 + 10x$

$4x^2 - x = 16x^2 - 1$

$x^2 + x^3 + x = 3x^2$


6
$2x^2 = (2x + 1) \cdot (x - 2)$
$5 + 3x^2 = (5 + 3x) \cdot x$
$2x^2 + 25 = x^2 + 10x$
$4x^2 - x = 16x^2 - 1$
$x^2 + x^3 + x = 3x^2$

1 $2x^2 = (2x + 1) \cdot (x - 2)$

$2x^2 - [(2x+1)(x-2)] = 0$

$2x^2 - [2x^2 - 4x + x - 2] = 0$

$2x^2 - 2x^2 + 3x + 2 = 0$

$3x + 2 = 0$

$3x = -2$

$x = \frac{-2}{3}$

$S = \left\{\frac{-2}{3}\right\}$

2 $5 + 3x^2 = (5 + 3x) \cdot x$

3 $2x^2 + 25 = x^2 + 10x$

4 $4x^2 - x = 16x^2 - 1$