Names (pair) _____ Date _____

Who Is Right? Mistakes with Quadratic Equations

Remember

For each piece of work: **1.** check the solutions by substituting, **2.** decide whether the work is correct, **3.** if it is not, find the step with the mistake and write the correct solution. Correct work needs a reason too.

1 IN PAIRS Who is right? **Student A** checks the odd numbers and **student B** the even ones. Then explain to each other what you found.

1 **Ana:** $x^2 = 49$, so $x = 7$. **true** / **false**

Mistake and correction: _____

2 **Ivan:** $x^2 = 3x$. I divide by x: $x = 3$. **true** / **false**

Mistake and correction: _____

3 **Lea:** $(x - 1)(x - 4) = 4$, so $x - 1 = 4$ or $x - 4 = 4$, that is $x = 5$ or $x = 8$. **true** / **false**

Mistake and correction: _____

4 **Marko:** $x^2 - 6x - 7 = 0$: $x = \frac{-6 \pm \sqrt{36 + 28}}{2} = \frac{-6 \pm 8}{2}$, so $x_1 = 1$, $x_2 = -7$. **true** / **false**

Mistake and correction: _____

5 **Iva:** $x^2 + 6x = 7$, so $x^2 + 6x + 9 = 16$, $(x + 3)^2 = 16$ and $x = 1$ or $x = -7$. **true** / **false**

Mistake and correction: _____

Names (pair) _____ Date _____

6 **Petra:** For $2x^2 - 8x + 6 = 0$, $x_1 + x_2 = 8$ and $x_1\,x_2 = 6$. **true** / **false**

Mistake and correction: _____

7 **Toni:** $x^2 + 4x + 5 = 0$: $D = 16 - 20 = -4$, so $x = \frac{-4 \pm 2}{2}$, that is $x_1 = -1, x_2 = -3$. **true** / **false**

Mistake and correction: _____

8 **Sara:** $x^4 - 5x^2 + 4 = 0$. With $t = x^2$ I get $t = 1$ and $t = 4$, so the solutions are 1 and 4. **true** / **false**

Mistake and correction: _____

9 **Niko:** $\frac{x^2}{x-3} = \frac{9}{x-3}$, so $x^2 = 9$ and $x = \pm 3$. **true** / **false**

Mistake and correction: _____

2 IN PAIRS **Your mistake.** Write one wrong solution of a quadratic equation that someone might make. Swap sheets with another pair: they must find the mistake and correct it.

Our wrong solution:

_____

_____

The mistake and the correction (written by the other pair):

_____

_____