

LESSON 38 | MEET THE IDEA

Unit 6 checkpoint and choosing a quadratic method

Thursday, March 11, 2027 . 6:00–7:00 PM Central

By the end, I can...

Choose and justify a quadratic-solving method, check the resulting solutions and explain what a model can reasonably tell me.

This is a **revision and correction guide**. The graded Unit 6 checkpoint is supplied separately by your teacher. No new topic is introduced today.

Method	A useful starting form	Why choose it?
Factoring	$x^2 - 5x = 0$	A common factor or familiar trinomial gives a quick zero product.
Square roots	$(x - 2)^2 = 7$	A squared expression is already isolated, or easy to isolate.
Complete the square	$x^2 - 4x = 1$	Create a squared binomial; it also reveals vertex form.
Quadratic formula	$3x^2 + 2x - 2 = 0$	Use a general method when factoring is not convenient.

Our one-hour checkpoint lesson

- 5 minutes: retrieve key ideas.
- 20 minutes: the Unit 6 checkpoint.
- 25 minutes: corrections and focused reteaching.
- 10 minutes: exit check and next steps.

Your teacher uses the checkpoint together with your work from Classes 33–37. One short assessment cannot demonstrate every skill by itself.

LESSON 38 | A SHORT CHECKING ROUTINE

Use the error to choose a repair

Error to notice	Repair
Dividing $x^2 = 5x$ by x	Factor $x(x - 5) = 0$ to retain the possible root $x = 0$.
Reporting only the positive square root	If the isolated square equals a positive number, use both $\pm$ cases. Then apply any context restrictions.
Adding only to one side	Complete the square with balanced operations on both sides.
Using 2 instead of $2a$	Keep the whole numerator over the denominator $2a$.
Giving a negative flight time	Check where the story starts and which root lies in its domain.
Treating a fitted curve as an exact law	Inspect the data, residuals and interval; label extrapolations as predictions.

Check in three steps

- 1. Algebra:** substitute each candidate into the original equation.
- 2. Completeness:** did you lose a zero root or forget a second sign?
- 3. Meaning:** are the units, time interval and selected roots sensible?

My correction log

The error I made: _____

The rule I need: _____

A lesson and new question to retry: _____

LESSON 38 | PRACTICE, NOT THE GRADED CHECKPOINT

A short revision check

Use the named method so you revisit all four. Check solutions and explain your choice when there is a context.

1. Factoring: solve $x^2 - 5x = 0$.

2. Square roots: solve $(x - 2)^2 = 7$.

3. Completing the square: solve $x^2 - 4x - 1 = 0$.

4. Quadratic formula: solve $3x^2 + 2x - 2 = 0$.

5. A fictional height model is $h(t) = -t^2 + 2t + 3$, fitted to data from 0 to 2 seconds after release. Predict when $h = 0$. Which root is relevant, and is this interpolation or extrapolation?

LESSON 38 | WORKED ANSWERS

Check, correct and take the next step

1. $x(x - 5) = 0$, so $x = 0$ or 5 . Checks: $0 - 0 = 0$ and $25 - 25 = 0$.

2. $x - 2 = \pm\sqrt{(7)}$, so $x = 2 \pm \sqrt{(7)}$. Either value gives $(x - 2)^2 = 7$.

3. $x^2 - 4x = 1$. Add 4: $(x - 2)^2 = 5$.

$x = 2 \pm \sqrt{(5)}$. Check the original as $(x - 2)^2 - 5 = 0$.

4. $a = 3$, $b = 2$, $c = -2$; $D = 4 + 24 = 28$.

$x = (-2 \pm 2\sqrt{(7)})/6 = (-1 \pm \sqrt{(7)})/3$.

To check, use $3x^2 + 2x - 2 = [(3x + 1)^2 - 7]/3$. Each root makes the numerator 0.

5. $-t^2 + 2t + 3 = 0$ gives $(t - 3)(t + 1) = 0$ after multiplying by -1 . The roots are 3 and -1 . Use **3 seconds**; -1 is before release. It is **extrapolation** beyond the observed 0–2 second interval, so the prediction needs caution.

Choose your next practice using evidence

Class 33: roots and factors. Class 34: square-root signs and context.

Class 35: balanced completion of the square. Class 36: formula signs and real-root cases. Class 37: fitting and interpreting a model.

Spring break follows. Chapter 7 begins Tuesday, March 23, 2027: arithmetic sequences and their rules. Curriculum focus: A.8A–B, A.7B and A.6C.