

LESSON 14 | REVIEW AND RECONNECT

Unit 2 checkpoint and linear-model review

Thursday, December 3, 2026 . 6:00–7:00 PM Central

Today is for checking and improving

Connect equations, graphs and contexts. These notes are a revision and corrections guide. Your teacher supplies the graded unit checkpoint separately.

Skill	Ask yourself	Revisit
Slope	Did I compare changes in the same order, with units?	Class 7
Graph features	Did I label intercept points and the zero correctly?	Class 8
Line equations	Did I use the given point and rate?	Class 9
Related lines	Did I handle horizontal and vertical cases?	Class 10
Domain and range	Did I state the bounds and the allowed values?	Class 11
Transformations	Did I distinguish input and output changes?	Class 12
Data models	Did I check the plot, prediction and meaning of r ?	Class 13

The one-hour class includes a 20-minute checkpoint. It samples the chapter; your teacher also uses earlier work when deciding what you understand and what to revisit.

LESSON 14 | WORKED REVISION

Connect the representations

Example | A club charges \$6 plus \$3 for each kit

$C = 3n + 6$

Slope 3; intercept (0, 6)

$n = 0, 1, 2, 3, 4$

$C = 6, 9, 12, 15, 18$

n is the kit count; C is cost in dollars.

The rate is \$3 per kit and the fixed fee is \$6.

Suppose no more than four kits may be bought.

These separate outputs form the range; do not join the graph points.

All four transformations: $f(x) = x$

Form and example	Result	Description
$af(x)$: $2f(x)$	$2x$	Multiply the output by 2.
$f(x) + d$: $f(x) + 3$	$x + 3$	Shift up 3.
$f(x - c)$: $f(x - 2)$	$x - 2$	Shift right 2.
$f(bx)$: $f(3x)$	$3x$	Compress horizontally by $1/3$.

Keep the two model questions separate

Does a line fit the pattern?

Inspect the scatterplot and linear correlation.

Has causation been established?

Consider how the data were collected and what other factors might explain the pattern.

LESSON 14 | PREPARE, THEN REFLECT

A short practice check-in

These are revision questions, not the graded checkpoint. Show the reasoning you would want to explain to your teacher.

1. Find the slope and equation through (1, 5) and (3, 9). Give both intercepts.

2. For your rule in Question 1, allow only $x = 0, 1, 2, 3$. List the range.

3. Write the line perpendicular to $y = 2x + 3$ through (0, 1).

4. For $f(x) = x$, simplify $f(x - 4)$ and describe the horizontal transformation. Give another transformation that produces the same line.

5. A fitted line is $y = 2x + 5$ with observed inputs from 1 to 6 and $r = 0.91$. Predict y at $x = 4$ and interpret r . Does r prove causation?

Choose one useful next step

Identify the earliest step that confused you. Revisit its lesson example, cover the next line, predict the step and then check. Finish with a fresh question.

LESSON 14 | WORKED ANSWERS AND REFLECTION

Check, correct and move forward

1. $m = (9 - 5)/(3 - 1) = 2$. Then $5 = 2(1) + b$ gives $b = 3$, so $y = 2x + 3$. Intercepts: **(0, 3)** and **(-1.5, 0)**.
2. The outputs are **3, 5, 7, 9**. The input restriction makes this a discrete set of points.
3. The new slope is $-1/2$, so the line through (0, 1) is $y = -(1/2)x + 1$.
4. **$f(x - 4) = x - 4$** , a rightward shift by 4. Shifting the parent **down 4**, using $f(x) - 4$, produces the same line.
5. At $x = 4$, $y = 2(4) + 5 = 13$. $r = 0.91$ suggests a strong positive **linear association**. It does not prove that changes in x cause changes in y .

My correction plan

Write something specific	Your notes
The step I need to improve	_____
The lesson I will revisit	_____
How I will check a fresh answer	_____

Next chapter begins Tuesday, December 8: linear inequalities in two variables and systems. Keep your slope, equation and graph skills ready.