

SAT Desmos Cheat Sheet

The 12 highest-leverage moves on the Digital SAT built-in graphing calculator · 2026 edition

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ALGEBRA

~35%

13–15 questions

ADVANCED MATH

~35%

13–15 questions

PROBLEM-SOLVING & DATA

~15%

5–7 questions

GEOMETRY & TRIG

~15%

5–7 questions

1 Systems of equations

$$y = 2x + 3$$

$$y = -x + 7$$

Click the **intersection dot**. No rearranging — standard form $2x + 3y = 12$ works too.

"The graphs intersect at (x, y) . What is the value of x ?"

2 Any single-variable equation

$$2^x = 5x$$

Type it **as-is**. Desmos draws a vertical line at every solution.

"What is the solution to the equation shown?"

3 Quadratic zeros & vertex

$$y = x^2 - 6x + 5$$

Grey dots are auto-marked. Bottom dot = **vertex**; x-axis dots = **zeros**.

"What is the minimum value of the function?"

4 Inequalities

$$y > 2x + 3$$

$$y < -x + 5$$

Regions shade automatically. **Dashed** line = strict inequality.

"Which point (x, y) satisfies both inequalities?"

5 Absolute value & piecewise

$$\text{abs}(2x - 5) = 7$$

Vertical lines at **both** solutions. Piecewise:

$$f(x) = x + 3 \{x < 2\}$$

"How many solutions does the equation have?"

6 Sliders for tangency

$$y = kx + 1$$

$$y = x^2$$

Click **"add slider"** for k , then drag until the line just touches the curve.

"For what value of k is the line tangent to the curve?"

7 Statistics in one line

$$L = [12, 7, 5, 15, 9]$$

$$\text{mean}(L) \text{ median}(L) \text{ stdev}(L)$$

Define the list once, then call **any** stat function on it.

"What is the mean / median / standard deviation of the data?"

8 Circles in any form

$$x^2 + y^2 - 6x + 4y - 3 = 0$$

No completing the square. Graphs instantly — read **centre** and **radius** off the plot.

"What is the radius of the circle in the xy -plane?"

9 Regression with the tilde

$$y_1 \sim ax_1^2 + bx_1 + c$$

Ctrl+Alt+T for a table, enter the data, then fit any model. Desmos solves a, b, c .

"Which equation best models the data in the table?"

10 "How many solutions?"

$$y = kx + 3$$

$$y = 2x^2 - 5$$

Drag k and **count intersections**. The answer is where the count changes.

"For how many values of k does the system have one solution?"

11 Table back-solve

$$x_1 = \text{answer choices}$$

$$y_1 = 2x_1^2 - 3x_1 - 5$$

Put all four choices in the table, type the expression as the **column header**, read which gives 0.

"Which of the following is a solution to the equation?"

12 Equivalent expressions

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

$$y = x^2 - x - 6$$

Graph the original + every choice. The one that **perfectly overlaps** is equivalent.

"Which expression is equivalent to the one shown?"

When NOT to reach for Desmos: pure arithmetic, simple one-step algebra, and most geometry-proof or angle-chase questions are faster by hand. Typing a 5-second problem into Desmos costs you 20 seconds. Desmos wins on graphs, systems, regressions and "find the value of k " — not on everything.

Ctrl+Alt+T new table $_$ subscript (x_1) $\wedge$ exponent **sqrt**() radical **abs**() absolute value { } domain restriction $\sim$ regression fit

Shift+drag rescale one axis Desmos is available on **every** SAT math question

Full guide, worked examples and live practice calculators: pursu.io/blog/how-to-use-desmos-on-the-sat

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