Recall: $\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$ $\qquad \frac{x^m}{x^n} = x^{m-n}$

$x^{-m} = \frac{1}{x^m}$ $\qquad \frac{1}{x^{-n}} = \frac{x^n}{1}$

$(x^m)^n = x^{m \cdot n}$

$x^m \cdot x^n = x^{m+n}$

$-14 \stackrel{?}{=} \frac{1}{+14}$ No!

but $x^{-14} = \frac{1}{x^{14}}$

Recall: parallel lines have = slopes
perpendicular lines have negative reciprocal slopes

$m = \frac{y_2 - y_1}{x_2 - x_1}$

point-slope formula $y - y_1 = m(x - x_1)$

slope-intercept form: $y = mx + b$

(m: slope, b: y intercept)

standard form: $Ax + By = C$

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

(2) $-2x + y + 2z = 12$

(3) $3x - 4y + z = -24$

Choose (1) + (2) + Kill y!

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

(4) = -2(2) $4x - 2y - 4z = -24$

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(5) = (1) + (4) $5x - 7z = -22$

Choose (2) + (3) Kill y!

(6) = 4(2) $-8x + 4y + 8z = 48$

(3) $3x - 4y + z = -24$

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(7) = (6) + (3) $-5x + 9z = 24$

(5) $5x - 7z = -22$

(7) $-5x + 9z = 24$

Kill x!

(8)=(5)+(7)

$2z = 2$

$z = 1$

→ (5) $5x - 7(1) = -22$

$5x - 7 = -22$

$+7 \quad +7$

$\frac{5x}{5} = \frac{-15}{5}$ $x = -3$

→ (1) $x + 2y - 3z = 2$

$-3 + 2y - 3(1) = 2$

$-3 + 2y - 3 = 2$

$2y - 6 = 2$

$+6 \quad +6$

$2y = 8$

$y = 4$