

Placement: Self Study Guide and Review for MAT 1375

Topic to review	Sample question for self test	Textbook	WeBWorK
		Review the topics and practice from the textbook: https://openstax.org/details/books/intermediate-algebra-2e	For further sample question for self test and practice, go to:
Graphing lines	(a) For the line $4x - 3y = 5$ find the slope and the y -intercept. (b) Graph the line $y = \frac{2}{3}x - 4$	Read chapters 3.1-3.3: https://openstax.org/books/intermediate-algebra-2e/pages/3-introduction Practice exercises: 19, 97, 107, 159	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275CO/ Click on: "Guest Login" WeBWorK Set: "LinesReview" "GraphingLines"
Solving quadratic equations	(c) Solve for x : $x^2 + 12 = 7x$ (d) Solve for x : $8x^2 - 2 = 0$ (e) Solve for x : $3x^2 + 2x - 4 = 0$	Read chapter 6.5: https://openstax.org/books/intermediate-algebra-2e/pages/6-introduction-to-factoring Practice exercises: 286, 283	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275/ Click on: "Guest Login" WeBWorK Set: "SquareRootProperty" "QuadraticFormula"
		Read chapters 9.1-9.3: https://openstax.org/books/intermediate-algebra-2e/pages/9-introduction Practice exercises: 7, 75, 79, 85, 89, 115, 123, 131	
Graphing parabolas	(f) Graph the parabola, and identify its vertex, x -intercepts and y -intercept: $y = x^2 - 6x$	Read chapters 9.6-9.7: https://openstax.org/books/intermediate-algebra-2e/pages/9-introduction Practice exercises: 243, 253, 311	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275/ Click on: "Guest Login" WeBWorK Set: "ShiftingParabolas" "ParabolaVertices-CtS" "ParabolaVertices-VertexFormula"

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		Review the topics and practice from the textbook: https://openstax.org/details/books/intermediate-algebra-2e	For further sample question for self test and practice, go to:
Evaluating logarithms	(g) Solve for x : $\log_2(x)=5$ (h) Evaluate $\log_3(81)$	Read chapters 10.2-10.3: https://openstax.org/books/intermediate-algebra-2e/pages/10-introduction Practice exercises: 159, 165, 167, 171	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275/ Click on: "Guest Login" WeBWorK Set: "LogarithmicFunctions"
Solving exponential equations	(i) Solve for x : $5^{3x+4}=25$ (j) Solve for x : $7^{x+2}=21$	Read chapters 10.2 and 10.5: https://openstax.org/books/intermediate-algebra-2e/pages/10-introduction Practice exercises: 97, 101, 309, 315	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275/ Click on: "Guest Login" WeBWorK Set: "ExponentialEquations"

Topic to review	Sample question for self test	Textbook	WeBWorK
		Review the topics and practice from the textbook: https://openstax.org/details/books/algebra-and-trigonometry	For further sample question for self test and practice, go to:
Evaluating sin, cos, tan expressions	(k) Evaluate: $\sin\left(\frac{\pi}{3}\right)$ (l) Evaluate: $\tan(30^\circ)$	Read chapters 7.3-7.4: https://openstax.org/books/algebra-and-trigonometry/pages/7-introduction-to-the-unit-circle-sine-and-cosine-functions Practice exercises: 7.3 #13, 7.3 #61, 7.4 #10, 7.4 #30	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275/ Click on: "Guest Login" WeBWorK Set: "UnitCircle" "CoordinatePlaneTrig"
Solving sin, cos, tan equations	(m) Find all x between 0 and 2π which satisfy $\sin(x)=\frac{-\sqrt{2}}{2}$ (n) Find all x between 0 and 2π which satisfy $2\cos(x)+3=4$	Read chapter 9.5: https://openstax.org/books/algebra-and-trigonometry/pages/9-introduction-to-trigonometric-identities-and-equations Practice exercises: 5, 7, 9, 41	https://mathww.citytech.cuny.edu/webwork2/Guest Access - MAT1275/ Click on: "Guest Login" WeBWorK Set: "TrigEquations"

Selected answers:

(a) slope $m = \frac{4}{3}$, y -intercept $(0, -\frac{5}{3})$ (c) $x=3, x=4$ (d) $x = \frac{1}{2}, x = -\frac{1}{2}$ (e) $x = \frac{-1 + \sqrt{13}}{3}, x = \frac{-1 - \sqrt{13}}{3}$ (f) vertex $(3, -9)$, x -intercepts $(0, 0)$ and $(6, 0)$, y -intercept $(0, 0)$
(g) $x = 32$ (h) 4 (i) $x = \frac{-2}{3}$ (j) $x = \frac{\ln(21)}{\ln(7)} - 2$ (k) $\frac{\sqrt{3}}{2}$ (l) $\frac{\sqrt{3}}{3}$ (m) $\frac{5\pi}{4}$ and $\frac{7\pi}{4}$ (n) $\frac{\pi}{3}$ and $\frac{5\pi}{3}$