

PLACEMENT TEST FOR PRECALCULUS

Read First: [Instruction for Placement Test Precalculus](#)

1. Use the quadratic formula to solve this equation: $3x^2 - 2x + 1 = 0$.
2. (a) Graph the equation $y = x^2 - 2x + 1$. (b) Find the coordinates of the points of intersection between $y = x^2 - 2x + 1$ and $y = 4$. (c) Shade the region determined by $y > x^2 - 2x + 1$ and $y < 4$.
3. Find all pairs (x, y) that satisfy both of the following equations simultaneously:

$$2x + 3y = 5$$

$$x - 2y = 8$$

4. Simplify:

$$\sqrt{\frac{3}{2}} + 4\sqrt{\frac{2}{3}} + \sqrt{24}$$

5. Solve for x :

$$x^{2/3} = 4$$

6. Solve for x :

$$\frac{5}{6} + \frac{3}{x+2} = \frac{2}{3}$$

7. Simplify:

$$\frac{x^3 - 16x - 6x^2}{x^2 - 8x - 20} \times \frac{-50 - 5x + x^2}{x^3 - 5x^2 - 24x}$$

8. Find three consecutive integers such that the product of the first and the second is equal to the product of -6 and the third.

9. How many different ways can all four of the letters A, B, C, and D be ordered if no repetition is allowed?

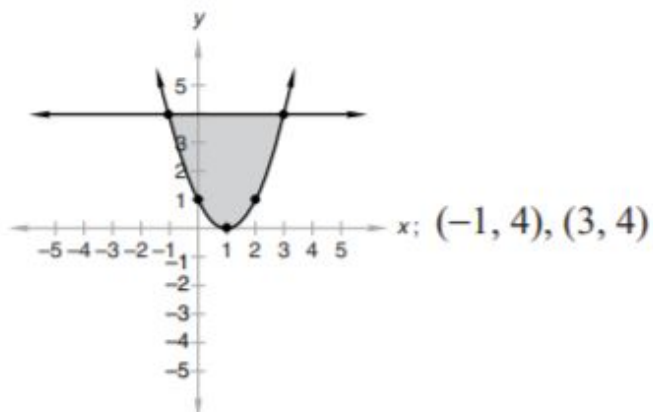
10. Find the equation of the line that passes through $(2, 1)$ and is perpendicular to $2x - 3y = 6$.

Test Answers

To determine course placement, see this: [Placement Guide Precalculus](#)

1. $\frac{1}{3} \pm \frac{\sqrt{2}}{3}i$

2.



3. $\left(\frac{34}{7}, \frac{-11}{7}\right)$

4. $\frac{23\sqrt{6}}{6}$

5. $x = 8$

6. $x = -20$

7. $\frac{x + 5}{x + 3}$

8. $-4, -3, -2$ or $-3, -2, -1$

9. 24 ways

10. $y = \frac{-3}{2}x + 4$