

# Algebra

## A042-Properties of Quadratic Equations



Find the vertex and the axis of symmetry for each function.

<p><b>1.</b> <math>y = x^2 + 2x + 1</math></p> <p>A) (1, 4) and <math>x = 1</math></p> <p>B) (-1, 0) and <math>x = -1</math></p> <p>C) <math>(-1/4, 9/16)</math> and <math>x = -1/4</math></p> <p>D) <math>(1/4, 25/16)</math> and <math>x = 1/4</math></p>	<p><b>6.</b> <math>y = -2x^2 - 12x</math></p> <p>A) (-3, 54) and <math>x = -3</math></p> <p>B) (-3, 18) and <math>x = -3</math></p> <p>C) (3, -54) and <math>x = 3</math></p> <p>D) (3, -18) and <math>x = 3</math></p>
<p><b>2.</b> <math>y = x^2 + 6x + 8</math></p> <p>A) (-6, 8) and <math>x = -6</math></p> <p>B) (6, 80) and <math>x = 6</math></p> <p>C) (-3, -1) and <math>x = -3</math></p> <p>D) (3, 35) and <math>x = 3</math></p>	<p><b>7.</b> <math>y = -2x^2 - 8x - 14</math></p> <p>A) (2, -22) and <math>x = 2</math></p> <p>B) (-2, -6) and <math>x = -2</math></p> <p>C) (4, -78) and <math>x = 4</math></p> <p>D) (-4, -14) and <math>x = -4</math></p>
<p><b>3.</b> <math>y = 2x^2 + 4x + 10</math></p> <p>A) (-1, 8) and <math>x = -1</math></p> <p>B) (1, 16) and <math>x = 1</math></p> <p>C) (-2, 10) and <math>x = -2</math></p> <p>D) <math>(-1/4, 9.125)</math> and <math>x = -1/4</math></p>	<p><b>8.</b> <math>y = -x^2 + 6x - 20</math></p> <p>A) (3, 7) and <math>x = 3</math></p> <p>B) (3, -11) and <math>x = 3</math></p> <p>C) (6, 52) and <math>x = 6</math></p> <p>D) (-6, -92) and <math>x = -6</math></p>
<p><b>4.</b> <math>y = 2x^2 + 16x + 2</math></p> <p>A) (-4, -94) and <math>x = -4</math></p> <p>B) (4, 74) and <math>x = 4</math></p> <p>C) (4, 98) and <math>x = 4</math></p> <p>D) (-4, -30) and <math>x = -4</math></p>	<p><b>9.</b> <math>y = -x^2 + 2x - 11</math></p> <p>A) (1, -8) and <math>x = 1</math></p> <p>B) (1, -10) and <math>x = 1</math></p> <p>C) (2, -11) and <math>x = 2</math></p> <p>D) (-2, -19) and <math>x = -2</math></p>
<p><b>5.</b> <math>y = x^2 + 6x + 17</math></p> <p>A) (-3, -7) and <math>x = -3</math></p> <p>B) (-6, -49) and <math>x = -6</math></p> <p>C) (-6, 23) and <math>x = -6</math></p> <p>D) (-3, 8) and <math>x = -3</math></p>	<p><b>10.</b> <math>y = 3x^2 + 6x - 12</math></p> <p>A) (-2, -12) and <math>x = -2</math></p> <p>B) (-2, -36) and <math>x = -2</math></p> <p>C) (-1, -21) and <math>x = -1</math></p> <p>D) (-1, -15) and <math>x = -1</math></p>