

Name:

Partners:

Math 2

Date:

Review 8 Version A

**[A] Circle whether each statement is true or false.**

T F 1.  $i^4 = 1$

T F 2.  $\sqrt{-3} = 3i$

T F 3.  $\sqrt{3}$  is irrational.

T F 4.  $(5 + 2i)(5 - 2i)$  is real.

T F 5. All integers are rational.

T F 6. The solutions to  $x^2 + 9 = 0$  are  $\pm 3i$ .

T F 7. The solutions to  $(x - 5)^2 = 9$  are  $\pm 8$ .

T F 8.  $y = 12x^2 + 3x - 40$  has no  $x$ -intercepts.

T F 9.  $y = 4x^2 + 620x + 1$  has two  $x$ -intercepts.

T F 10. The discriminant of  $ax^2 + bx + c = 0$  is  $b^2 - 4ac$ .

T F 11. The number  $4 + 9i$  would be represented on the complex plane by the point  $(4, -9)$ .

T F 12. For any real values of  $a$ ,  $b$ , and  $c$ , the number of real solutions to  $ax^2 + bx + c = 0$  is the same as the number of  $x$ -intercepts of  $y = ax^2 + bx + c$ .

**[B] Simplify completely.**

1.  $6 - 3\sqrt{2} + 10\sqrt{2}$

2.  $\sqrt{60} \cdot \sqrt{2}$

3.  $\sqrt{-40}$

4.  $3(30 - \sqrt{3})$

**[C] Solve. Show all work with equations only. Simplify answers completely.**

1.  $x^2 + 8x + 20 = 0$

2.  $3x^2 + 7x + 3 = 0$

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Review 8 Version B

**[A] Circle whether each statement is true or false.**

T F 1.  $i^4 = 1$

T F 2.  $\sqrt{-3} = 3i$

T F 3.  $\sqrt{3}$  is irrational.

T F 4.  $(5 + 2i)(5 - 2i)$  is real.

T F 5. All integers are rational.

T F 6. The solutions to  $x^2 + 9 = 0$  are  $\pm 3i$ .

T F 7. The solutions to  $(x - 5)^2 = 9$  are  $\pm 8$ .

T F 8.  $y = 12x^2 + 3x - 40$  has no  $x$ -intercepts.

T F 9.  $y = 4x^2 + 620x + 1$  has two  $x$ -intercepts.

T F 10. The discriminant of  $ax^2 + bx + c = 0$  is  $b^2 - 4ac$ .

T F 11. The number  $4 + 9i$  would be represented on the complex plane by the point  $(4, -9)$ .

T F 12. For any real values of  $a$ ,  $b$ , and  $c$ , the number of real solutions to  $ax^2 + bx + c = 0$  is the same as the number of  $x$ -intercepts of  $y = ax^2 + bx + c$ .

**[B] Simplify completely.**

1.  $6 - 3\sqrt{2} + 1 + 10\sqrt{2}$

2.  $\sqrt{60} \cdot \sqrt{6}$

3.  $\sqrt{-84}$

4.  $\sqrt{3}(30 - \sqrt{3})$

**[C] Solve. Show all work with equations only. Simplify answers completely.**

1.  $x^2 + 8x + 19 = 0$

2.  $3x^2 - 9x + 10 = 0$

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Review 8 Version C

**[A] Circle whether each statement is true or false.**

T F 1.  $i^4 = 1$

T F 2.  $\sqrt{-3} = 3i$

T F 3.  $\sqrt{3}$  is irrational.

T F 4.  $(5 + 2i)(5 - 2i)$  is real.

T F 5. All integers are rational.

T F 6. The solutions to  $x^2 + 9 = 0$  are  $\pm 3i$ .

T F 7. The solutions to  $(x - 5)^2 = 9$  are  $\pm 8$ .

T F 8.  $y = 12x^2 + 3x - 40$  has no  $x$ -intercepts.

T F 9.  $y = 4x^2 + 620x + 1$  has two  $x$ -intercepts.

T F 10. The discriminant of  $ax^2 + bx + c = 0$  is  $b^2 - 4ac$ .

T F 11. The number  $4 + 9i$  would be represented on the complex plane by the point  $(4, -9)$ .

T F 12. For any real values of  $a$ ,  $b$ , and  $c$ , the number of real solutions to  $ax^2 + bx + c = 0$  is the same as the number of  $x$ -intercepts of  $y = ax^2 + bx + c$ .

**[B] Simplify completely.**

1.  $\sqrt{6} - 3\sqrt{2} + 1 + 10\sqrt{2}$

2.  $\sqrt{60} \cdot \sqrt{27}$

3.  $\sqrt{-108}$

4.  $\sqrt{3}(30 - \sqrt{15})$

**[C] Solve. Show all work with equations only. Simplify answers completely.**

1.  $2x^2 + 8x + 20 = 0$

2.  $3x^2 - 9x = 10$

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Review 8 Version D

**[A] Circle whether each statement is true or false.**

T F 1.  $i^4 = 1$

T F 2.  $\sqrt{-3} = 3i$

T F 3.  $\sqrt{3}$  is irrational.

T F 4.  $(5 + 2i)(5 - 2i)$  is real.

T F 5. All integers are rational.

T F 6. The solutions to  $x^2 + 9 = 0$  are  $\pm 3i$ .

T F 7. The solutions to  $(x - 5)^2 = 9$  are  $\pm 8$ .

T F 8.  $y = 12x^2 + 3x - 40$  has no  $x$ -intercepts.

T F 9.  $y = 4x^2 + 620x + 1$  has two  $x$ -intercepts.

T F 10. The discriminant of  $ax^2 + bx + c = 0$  is  $b^2 - 4ac$ .

T F 11. The number  $4 + 9i$  would be represented on the complex plane by the point  $(4, -9)$ .

T F 12. For any real values of  $a$ ,  $b$ , and  $c$ , the number of real solutions to  $ax^2 + bx + c = 0$  is the same as the number of  $x$ -intercepts of  $y = ax^2 + bx + c$ .

**[B] Simplify completely.**

1.  $\sqrt{6} - 3\sqrt{2} + 1 + 10\sqrt{8}$

2.  $2\sqrt{60} \cdot \sqrt{27}$

3.  $\sqrt{-961}$

4.  $\sqrt{20}(30 - \sqrt{15})$

**[C] Solve. Show all work with equations only. Simplify answers completely.**

1.  $2x^2 + 8x + 24 = 0$

2.  $3x^2 - 6x = 10$