

**MA90 Exercises for section 9.2 Completing the Square****Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$x^2 - 2x + \underline{\hspace{2cm}}$$

- a. 4
- b. 1
- c.  $x$
- d. 2
- e.  $2x$

- \_\_\_\_\_ 2. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$z^2 + 12z + \underline{\hspace{2cm}}$$

- a. 24
- b. 36
- c.  $24z$
- d. 6
- e.  $36z$

- \_\_\_\_\_ 3. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$z^2 - 5z + \underline{\hspace{2cm}}$$

- a.  $\frac{25}{4}$
- b.  $\frac{25}{4}z$
- c.  $\frac{4}{25}z$
- d. 10
- e. 25

Name: \_\_\_\_\_

ID: A

- \_\_\_\_\_ 4. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$y^2 - 3y + \underline{\hspace{2cm}}$$

- a.  $\frac{9}{4}y$
- b. 9
- c.  $\frac{9}{4}$
- d. 6
- e.  $9y$

### Numeric Response

1. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$z^2 + 10z + \underline{\hspace{2cm}}$$

.

2. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$x^2 + 12x + \underline{\hspace{2cm}}$$

.

3. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$z^2 - 18z + \underline{\hspace{2cm}}$$

.

**Short Answer**

1. Give the correct final term for the following expression to ensure that the resulting trinomial is a perfect square trinomial.

$$x^2 - 3x + \underline{\hspace{2cm}}$$

.

2. Solve the equation by completing the square.

$$x^2 + 4x - 3 = 0$$

.

3. Solve the equation by completing the square.

$$4x^2 + 8x = 4$$

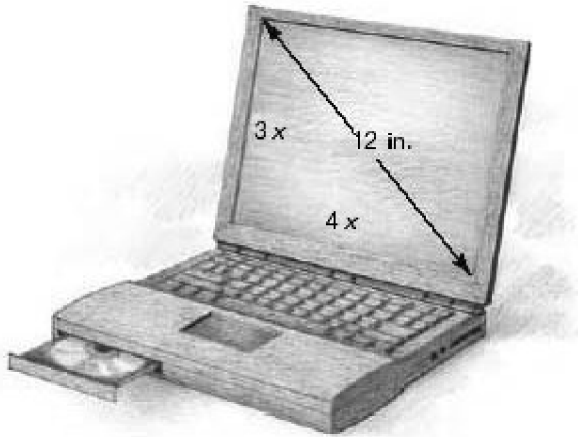
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4. Solve the equation by completing the square.

$$2x^2 - 2x = 3$$

.

5. An advertisement for a portable computer indicates it has a 12-inch viewing screen. This means that the diagonal of the screen measures 12 inches. If the ratio of the length to the width of the screen is 3 to 4, we can represent the length with  $4x$  and the width with  $3x$ , and then use the Pythagorean theorem to solve for  $x$ . Once we have  $x$ , the length will be  $4x$  and the width will be  $3x$ . Find the length and width of this computer screen to the nearest tenth of an inch.



Length = \_\_\_\_\_ in., width = \_\_\_\_\_ in.

**MA90 Exercises for section 9.2    Completing the Square  
Answer Section**

**MULTIPLE CHOICE**

- |           |        |
|-----------|--------|
| 1. ANS: B | PTS: 1 |
| 2. ANS: B | PTS: 1 |
| 3. ANS: A | PTS: 1 |
| 4. ANS: C | PTS: 1 |

**NUMERIC RESPONSE**

- |            |
|------------|
| 1. ANS: 25 |
| PTS: 1     |
| 2. ANS: 36 |
| PTS: 1     |
| 3. ANS: 81 |
| PTS: 1     |

**SHORT ANSWER**

- |  |
|--|
| 1. ANS:  |
| $\frac{9}{4}$                                    |
| PTS: 1   |
| 2. ANS:  |
| $-2 \pm \sqrt{7}$                                |
| PTS: 1   |
| 3. ANS:  |
| $-1 \pm \sqrt{2}$                                |
| PTS: 1   |
| 4. ANS:  |
| $\frac{1 - \sqrt{7}}{2}, \frac{1 + \sqrt{7}}{2}$ |
| PTS: 1   |

5. ANS:  
9.6, 7.2

PTS: 1