Solve each quadratic equation using graphing, square roots, factoring or quadratic formula. You must use each method twice.

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| Problem | Method Used to Solve and Why | Solutions (Pick the sentences that best describe your answers and fill in the blanks)  |
| 1. y = -2(x + 2)2 - 5
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. 3*x*2**+** 1 = 54
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Problem | Method Used to Solve and Why | Solutions (Pick the sentences that best describe your answers and fill in the blanks)  |
| 1. y = (x - 1)2 - 3
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. 2*x*2- 10 = -4
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Problem | Method Used to Solve and Why | Solutions (Pick the sentences that best describe your answers and fill in the blanks)  |
| 1. 2*x*2 - 7*x* - 9 = 0
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. x2 – 7x- 18 = 0
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Problem | Method Used to Solve and Why | Solutions (Pick the sentences that best describe your answers and fill in the blanks)  |
| 1. x2 – 3x - 10 = 0
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. *x*2 *– 3x -* 154 = 0
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Problem | Method Used to Solve and Why | Solutions (Pick the sentences that best describe your answers and fill in the blanks)  |
| 1. x2 – 4x - 96 = 0
 |  | A.This equation has 2 real solutions \_\_\_\_\_ and \_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. This equation has no real solutions because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C. This equation has one real solution\_\_\_\_ because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Which method of solving quadratics do you prefer and why?
2. What is the most challenging part of using the quadratic formula?
3. What is a benefit of using the quadratic formula?
4. What is an important thing to remember when solving using square roots?
5. What is challenging about factoring?