Solving Quadratic Equations by Completing the Square Homework

NAME _____

1. A customer at a clothing store is interested in 12 shirts on sale. How many ways can she choose 4 shirts to buy?

2. A teacher has 19 students in her class. How many ways can she arrange students in the six seats in the front row of her classroom?

3. Find the probability of drawing a black card or a face card from a standard deck of 52 cards.

4. Find the value of *q* by completing the square.
   $x^2 - 32x + q$

   $a^2 - 5a + q$

   $p^2 - 14p + q$

5. Solve each equation by completing the square.
   $v^2 - 2v = 3$

$2n^2 + 12n + 10 = 0$

$4v^2 + 16v = 66$

6. Solve $6x^2 - 5 = 67$

7. Factor each polynomial completely.

$5t^4 - 15t^3 + 25t^2$

$3x^2 - 2x - 8$

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

Solving Quadratic Equations by Completing the Square Homework

NAME ANSWER KEY

1. A customer at a clothing store is interested in 12 shirts on sale. How many ways can she choose 4 shirts to buy? $495\ ways$

2. A teacher has 19 students in her class. How many ways can she arrange students in the six seats in the front row of her classroom? $19{,}535{,}040\ ways$

3. Find the probability of drawing a black card or a face card from a standard deck of 52 cards.

$$\frac{32}{52} = \frac{8}{13}$$

4. Find the value of q by completing the square.

$x^2 - 32x + q$ 256

$a^2 - 5a + q$ $\frac{25}{4}$

$p^2 - 14p + q$ 49

5. Solve each equation by completing the square.

$v^2 - 2v = 3$ $v = -1,3$

$2n^2 + 12n + 10 = 0$ $v = -5, -1$

$4v^2 + 16v = 66$ $v = -2 \pm \frac{\sqrt{82}}{2}$

6. Solve $6x^2 - 5 = 67$ $x = \pm 2\sqrt{3}$

7. Factor each polynomial completely.

$5t^4 - 15t^3 + 25t^2$ $5t^2(t^2 - 3t + 5)$

$3x^2 - 2x - 8$ $(3x + 4)(x - 2)$

$x^3 + 4x^2 - x - 4$ $(x^2 - 1)(x + 4)$