

The Case of Ms. Mann's Briefcase

Unlock the Code

Directions: Solve each quadratic equation below by completing the square. Use your solutions to fill in the blanks and discover clues to help you unlock Ms. Mann's briefcase.

1. _____ $x^2 - 2x - 2 = 0$	is	2. _____ $x^2 + 6x + 4 = 0$	3. _____ $x^2 + 12x + 20 = 0$
4. _____ $x^2 - 7x - 44 = 0$	is two	5. _____ $x^2 - 6x - 2 = 0$	6. _____ $x^2 - 8x + 4 = 0$
7. _____ $x^2 + 4x + 1 = 0$	is	8. _____ $x^2 - 2x = 3$	9. _____ $2x^2 + 12x + 10 = 0$
but	10. _____ $4x^2 + 16x = 65$	11. _____ $3x^2 + 20x + 36 = 4$	

WORD BANK
Digit D {-10, -2}
greater than {-1, 3}
Digit A {0, 2}
less than {-3, 1}
greater than {3 ± √11}
less than {-3 ± √5}
Digit A {4 ± 2√3}
Digit C {7 ± √93}
Digit D {-6 ± √26}
Digit B {4 ± 2√5}
less than { $\frac{5}{2}, -\frac{13}{2}$ }
Digit C {-5, -1}
greater than {-3 ± √13}
Digit B {-4, - $\frac{8}{3}$ }
Digit B {1 ± √3}
Digit A {-2 ± √3}
Digit D {-4, 11}
Digit B {-6 ± √14}

Now use your clues to discover the combination to Ms. Mann's briefcase. _____ A B C D		1	2	3	4
	Digit A				
	Digit B				
	Digit C				
	Digit D				