

Copy problems onto your own paper. Show work.

Find the value of c that completes the trinomial square. Factor the trinomial square as the square of a binomial. Example: $x^2 + 26x + c = x^2 + 26x + 39 = (x+13)^2$

1. $x^2 + 40x + c$

2. $x^2 - 28x + c$

Solve each equation by completing the square. Give answers in simplest form.

3. $x^2 - 14x + 1 = 0$

4. $x^2 + 30x + 175 = 0$

5. $2x^2 + 12x - 560 = 0$

6. $3x^2 + 6x - 39 = 0$

7. $4x^2 - 48x + 16 = 0$

8. $5x^2 - 110x + 200 = 0$

9. **Solve by quadratic formula:** $2x^2 - 9x - 18 = 0$

10. **Solve for x :** $\frac{5}{3}x^2 = 40$

11. **Factor by grouping:** $6x^3 - 21x^2 + 10x - 35$

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