

Completing the Square *fluency*

ANSWERS

 Write in the form $(x + p)^2 + q$

1 $x^2 + 6x + 10$ $(x + 3)^2 + 1$

3 $x^2 + 8x + 20$ $(x + 4)^2 + 4$

5 $x^2 + 10x + 30$ $(x + 5)^2 + 5$

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

4 $x^2 + 2x - 5$ $(x + 1)^2 - 6$

6 $x^2 + 12x$ $(x + 6)^2 - 36$

 Write in the form $(x + p)^2 + q$

7 $x^2 - 6x + 4$ $(x - 3)^2 - 5$

9 $x^2 - 10x - 3$ $(x - 5)^2 - 28$

11 $x^2 - 12x + 40$ $(x - 6)^2 + 4$

8 $x^2 - 4x + 9$ $(x - 2)^2 + 5$

10 $x^2 - 2x + 7$ $(x - 1)^2 + 6$

12 $x^2 - 14x$ $(x - 7)^2 - 49$

 Write in the form $(x + p)^2 + q$

13 $x^2 + 3x + 1$ $(x + \frac{3}{2})^2 - \frac{5}{4}$

15 $x^2 - 7x + 10$ $(x - \frac{7}{2})^2 - \frac{9}{4}$

17 $x^2 + 9x$ $(x + \frac{9}{2})^2 - \frac{81}{4}$

14 $x^2 + 5x - 2$ $(x + \frac{5}{2})^2 - \frac{33}{4}$

16 $x^2 - x + 3$ $(x - \frac{1}{2})^2 + \frac{11}{4}$

18 $x^2 - 3x - 4$ $(x - \frac{3}{2})^2 - \frac{25}{4}$

 Write in the form $a(x + p)^2 + q$

19 $2x^2 + 8x + 5$ $2(x + 2)^2 - 3$

21 $2x^2 - 4x + 7$ $2(x - 1)^2 + 5$

23 $4x^2 + 24x + 30$ $4(x + 3)^2 - 6$

20 $3x^2 + 12x - 1$ $3(x + 2)^2 - 13$

22 $5x^2 - 20x + 3$ $5(x - 2)^2 - 17$

24 $3x^2 - 6x$ $3(x - 1)^2 - 3$

 Write in the form $a(x + p)^2 + q$

25 $2x^2 + 6x + 1$ $2(x + \frac{3}{2})^2 - \frac{7}{2}$

27 $-x^2 + 4x + 5$ $-(x - 2)^2 + 9$

29 $2x^2 - 2x - 3$ $2(x - \frac{1}{2})^2 - \frac{7}{2}$

26 $3x^2 - 9x + 2$ $3(x - \frac{3}{2})^2 - \frac{19}{4}$

28 $10 + 6x - x^2$ $-(x - 3)^2 + 19$

30 $4x^2 + 4x + 5$ $4(x + \frac{1}{2})^2 + 4$