

Factor the following COMPLETELY

1. $x^2 - 81$

2. $x^2 - 11 + 18$

3. $2x^2 - 7x - 4$

4. $8x^2 + 24$

5. $4x^2 - 49$

6. $x^2 - x - 20$

7. $5x^2 + 25x + 30$

8. $-3x^2 + 9$

9. $4x^2 - x - 5$

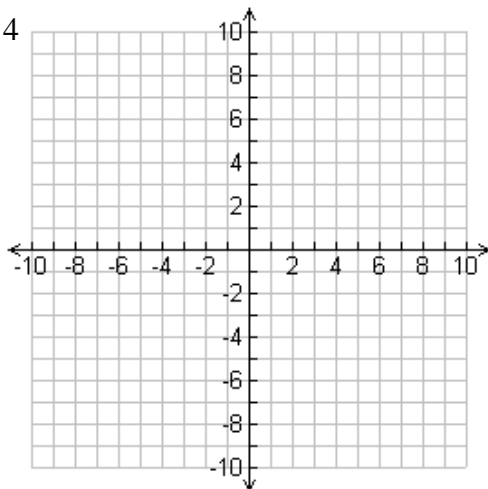
10. $3x^2 - 9x - 30$

11. $x^2 + 8xy + 12y^2$

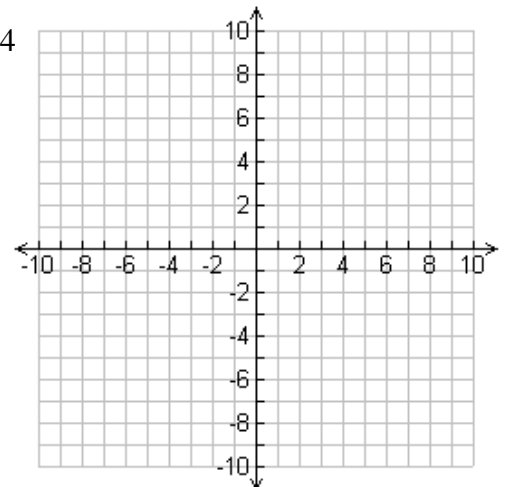
12. $12x^2 - 15x$

Plot all the points from your table that fit on the graph and sketch your parabola:

13. $y = -x^2 + 2x + 4$

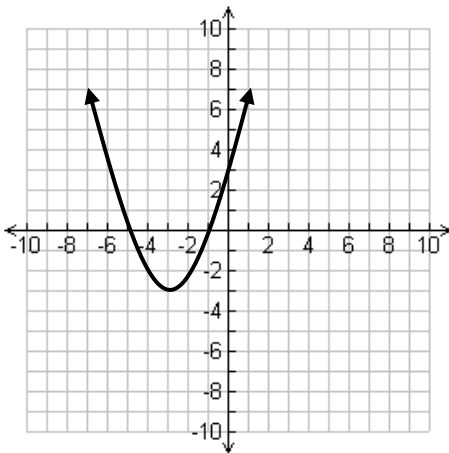


14. $y = x^2 - 5x + 4$



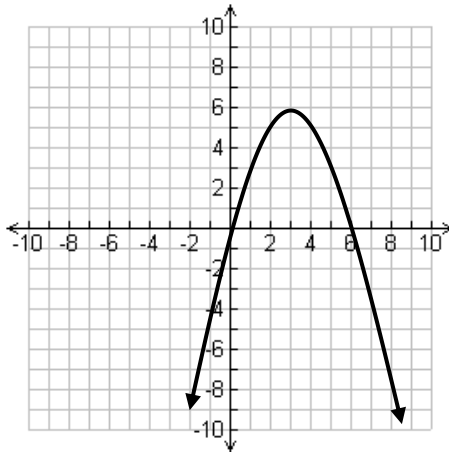
Given the graph of the parabola, complete the table

15.



x-intercepts:	_____	y-intercept:	_____
Domain:	_____	Range:	_____
Increasing:	_____	Decreasing:	_____
As $x \rightarrow \infty$, $f(x) \rightarrow$	_____	As $x \rightarrow -\infty$, $f(x) \rightarrow$	_____

16.



x-intercepts:	_____	y-intercept:	_____
Domain:	_____	Range:	_____
Increasing:	_____	Decreasing:	_____
As $x \rightarrow \infty$, $f(x) \rightarrow$	_____	As $x \rightarrow -\infty$, $f(x) \rightarrow$	_____

Solve each equation algebraically: factoring or quadratic formula

17. $2x^2 + 14x = 0$

18. $3x^2 - 8 = -2x$

19. $x^2 - 11x + 18 = 0$

20. $3x + 4 = -x^2$

21. $x^2 + 6x = -11$

22. $x^2 - 3x = 9$