Parabola

Questions are in the given forms $y = ax^2 + bx + c$ or $4c(y-q) = (x-p)^2$
$x = ay^2 + by + c$ or $4c(x-p) = (y-q)^2$

$-2(x-4) = (y+3)^2$

1. $y = -\frac{1}{2}y^2 - 3y - \frac{1}{2}$

$\frac{1}{2}(y+2) = (x-3)^2$

2. $y = 2x^2 - 12x + 16$

3. $\frac{1}{4}(y+3) = (x-4)^2$
$y = 4x^2 - 32x + 61$

$6(y+1) = (x-2)^2$

4. $y = \frac{1}{6}x^2 - \frac{2}{3}x - \frac{1}{3}$

$-4(x+4) = (y-3)^2$

5. $x = -\frac{1}{4}y^2 - \frac{2}{3}y + \frac{25}{4}$

$\frac{1}{8}(x+1) = (y-2)^2$

6. $x = 8y^2 - 32y + 31$

$\frac{1}{4}(x-3) = (y+2)^2$

7. $x = 4y^2 + 16y + 19$

$\frac{1}{12}(x-2) = (y+1)^2$

8. $x = 12y^2 + 24y + 14$

9. $\frac{1}{24}(y+4) = (x-7)^2$
$y = 24x^2 - 336x + 1172$

$8(y+2) = (x+5)^2$

10 $y = \frac{1}{8}x^2 + \frac{5}{4}x + 9$

Note: These questions can be used to practice completing the trinomial square since the second part of each question is the result of completing the trinomial square.