

$$3. \quad y = x^2 - 6 \quad y = -x^2 + 2$$

POI'S

$$x^2 - 6 = -x^2 + 2$$

$$x^2 + x^2 = 2 + 6$$

$$2x^2 = 8$$

$$\frac{2x^2}{2} = \frac{8}{2}$$

$$x^2 = 4$$

$$x = \pm\sqrt{4}$$

$$x = \pm 2$$

$$\int_{-2}^2 \overset{\text{ABOVE}}{(-x^2 + 2)} - \overset{\text{BELOW}}{(x^2 - 6)} dx$$

$$\int_{-2}^2 (-x^2 + 2 - x^2 + 6) dx$$

$$\int_{-2}^2 (-2x^2 + 8) dx$$

$$4. \quad \int_1^4 \overset{\text{ABOVE}}{(x^2 - 4x)} - \overset{\text{BELOW}}{(2x - 5)} dx$$

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

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

$$\text{VERTEX: } (2, -4)$$

$$\left(-4 \cdot \frac{1}{2}\right)^2$$

$$(-2)^2$$

$$4$$

