

$$8. \quad \begin{array}{ccc} \text{THICK} & \text{NORMAL} & \text{---} \\ y = x + 1 & y = 5 - x & y = 1 \end{array}$$

<u>POI'S</u>	<u>POI'S</u>	<u>POI'S</u>
$x + 1 = 1$	$x + 1 = 5 - x$	$5 - x = 1$
$x = 1 - 1$	$x + x = 5 - 1$	$5 - 1 = x$
$x = 0$	$2x = 4$	$4 = x$
	$x = 2$	

$$\int_0^2 \overset{\text{ABOVE}}{(x+1)} - \underset{\text{BELOW}}{(1)} dx + \int_2^4 \overset{\text{ABOVE}}{(5-x)} - \underset{\text{BELOW}}{(1)} dx$$

$$\int_0^2 x dx + \int_2^4 (-x + 4) dx$$

$$\left[\frac{1}{2}x^2 \right]_0^2 + \left[-\frac{1}{2}x^2 + 4x \right]_2^4$$

$$\left[\frac{1}{2}(2)^2 - \frac{1}{2}(0)^2 \right] + \left[\left(-\frac{1}{2}(4)^2 + 4(4) \right) - \left(-\frac{1}{2}(2)^2 + 4(2) \right) \right]$$

$$2 + [-8 + 16 - (-2 + 8)] \quad 2 + 2$$

$$2 + [8 - 6] \quad \textcircled{4}$$

$$9. \quad f(y) = y^2 - 3y \quad g(y) = -3y + 4$$

$$f(x) = x^2 - 3x \quad g(x) = -3x + 4$$

POI'S

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

$$x^2 = 4$$

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

$$x = \pm 2$$

$$\int_{-2}^2 (-3x + 4) - (x^2 - 3x) dx$$

$$\int_{-2}^2 (-3x + 4 - x^2 + 3x) dx$$

$$\int_{-2}^2 (-x^2 + 4) dx$$

$$\left[-\frac{1}{3}x^3 + 4x \right]_{-2}^2$$

$$\left[-\frac{1}{3}(2)^3 + 4(2) \right] - \left[-\frac{1}{3}(-2)^3 + 4(-2) \right]$$

$$-\frac{8}{3} + 8 - \left(\frac{8}{3} - 8 \right) \quad -\frac{16}{3} + 16$$

$$-\frac{8}{3} + 8 - \frac{8}{3} + 8 \quad \textcircled{\frac{32}{3}}$$