Present neatly on separate paper. Justify for full credit. No Calculators.

Name _____   Score _____   10 minutes

1.

(a) If $f(x) = x\sqrt{5 - x}$, find $f'(x)$.

(b) Find equations of the tangent lines to the curve
$y = x\sqrt{5 - x}$ at the points $(1, 2)$ and $(4, 4)$.

2.

If f and g are the functions whose graphs are shown, let
$P(x) = f(x)g(x)$, $Q(x) = f(x)/g(x)$, and $C(x) = f(g(x))$.
Find (a) $P'(2)$, (b) $Q'(2)$, and (c) $C'(2)$.