(1.) (2 pts each)	True / FalseCircle your choice.	Circle T only if the statement is always true
[No explanation necessary.]		





(b) If a function is continuous, then it is differentiable.

(c) If f'(x) is increasing, then f is concave up.

T

(d) If f''(x) = -3, then f is decreasing.

(e) If f has a critical point at x=3, then f has a local maximum or a local minimum at x=3.

$$r(2) = 2$$

and

$$s(2) = 1$$

$$r(4) = -1$$

$$s(4) = 2$$

$$r'(2) = 5$$

$$s'(2) = 3$$

$$r'(4) = -3$$

$$s'(4) = 4$$

Determine the values indicated below or state clearly what information is needed (and not supplied) to determine the requested value. In each case, first determine a general formula for the derivative function and then find the requested value (if possible). [Circle your answers.]

(3 pts each) Find:

(a)
$$H'(2)$$
 if $H(x) = ln(r(x))$

(a)
$$H'(2)$$
 if $H(x) = \ln(r(x))$
 $H'(x) = \frac{1}{4(x)} \cdot h'(x) \longrightarrow H'(2) = \frac{1}{4(x)} \cdot h'(2) =$

(b)
$$H'(2)$$
 if $H(x) = \frac{s(x)}{r(x)}$

H'(x)= s'(x) p(x) - s(x) p'(x) - H'(x)= 3(2)-(1)(5)

(c)
$$H'(2)$$
 if $H(x) = \sqrt{s(x)} = (s(x))^{1/2}$

H(x) = = (s(x)) . s(x)

H(2) = \(\((s(a))^2 \) \(s'(a) \) = \(\frac{1}{5} \) \(\frac{1}{5} \) \(\frac{1}{5} \)