
(show all your work and circle one letter to get a full mark or you will get zero)

3) The function

$$f(x) = \frac{\sqrt{1-(x-1)^2}}{x}$$

is

- (a) Decreasing on $(-\infty, +\infty)$
- (b) Increasing on $(0,1)$ and on $(1,2)$
- (c) Increasing on $(0,1)$ and decreasing on $(1,2)$
- (d) Increasing on $(1,2)$ and decreasing on $(0,1)$
- (e) Decreasing on $(0,1)$ and on $(1,2)$
- (f) none of the above

2)

The function $f(x) = x^4 - 4x^2$ has

- (a) one local max and one local min
- (b) one local max and no local min
- (c) one local min and no local max
- (d) two local max and one local min
- (e) two local min and one local max
- (f) none of the above

1) The function

$$f(x) = \ln(x^2 - 3x + 2)$$

has

is

- (a) one local max and one local min
- (b) one local max and no local min
- (c) one local max and two local min
- (d) two local max and one local min
- (e) one local min and no local max
- (f) none of the above