

MATH 101-02 (152)  
QUIZ # 5

NAME:

ID. #:

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Q1. Find the Derivative of the function

$$J(t) = (t^3 - 2t)(t^{-4} + t^{-2})$$

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Q2. Suppose  $u$  and  $v$  are functions of  $x$  that are differentiable at  $x = 0$  and that

$$u(0) = 5, \quad u'(0) = -3, \quad v(0) = -1, \quad v'(0) = 2.$$

Find  $\frac{d}{dx}\left(\frac{v}{u}\right)$  at  $x = 0$

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Q3. Find  $f'(x)$  and  $f''(x)$  where

$$f(x) = x^{5/2}e^x$$