

CHAIN RULE — MULTIPLE-CHOICE WORKSHEET

Name: _____ Date: _____

Instructions: Use the chain rule to find dy/dx . Circle the best answer for each question.

1. If $y = 2u^3$ and $u = 8x - 1$, find dy/dx .

- A. $6(8x - 1)^2$
- B. $48(8x - 1)^2$
- C. $48(8x - 1)^3$
- D. $16(8x - 1)^2$

2. If $y = \cos u$ and $u = x/3$, find dy/dx .

- A. $-(1/3)\sin(x/3)$
- B. $(1/3)\cos(x/3)$
- C. $-3\sin(x/3)$
- D. $(1/3)\sin(-x/3)$

3. If $y = \sin u$ and $u = x - \cos x$, find dy/dx .

- A. $\cos(x - \cos x)(1 - \sin x)$
- B. $\sin(x - \cos x)(1 + \sin x)$
- C. $\cos(x - \cos x)(1 + \sin x)$
- D. $\cos(x - \cos x)$

4. If $y = -\sec u$ and $u = 1/x + 7x$, find dy/dx .

- A. $(7 - 1/x^2)\sec(1/x + 7x)\tan(1/x + 7x)$
- B. $(1/x^2 - 7)\sec(1/x + 7x)\tan(1/x + 7x)$
- C. $-(1/x^2 - 7)\sec(1/x + 7x)\tan(1/x + 7x)$
- D. $(1/x^2 - 7)\tan(1/x + 7x)$