

Unit 5:

Check for Understanding

Derivative Rules VS. Integration Rules (Mixed Review)

WARMUP:

SHOW ALL STEPS for each of the following:

- Find the derivative using an appropriate method.
- Integrate your result using an appropriate method.

$$1. \quad y = 2x^3 - x^2 + 6x$$

$$2. \quad y = \sqrt{x^2 - 9}$$

$$3. \quad y = \cos(4x^3)$$

$$4. \quad y = 2\sec^5 x$$

$$5. \quad y = \sin^3(-x^2)$$

$$6. \quad 2x^3 y = 8$$

$$7. \quad s(t) = \frac{-16}{t} + \frac{64}{t^2} - 3t$$

$$8. \quad y = \frac{-1}{5(x^5 + 1)^4}$$