1. (1 pt) Find the derivative of
$f(x) = e^{8x}(x^2 + 2^x)$
$f'(x) =$ _____
Answer(s) submitted:

•

(incorrect)

2. (1 pt) Find the derivative of
$v(t) = t^2 e^{-ct}$
Assume that c is a constant.
$v'(t) =$ _____
Answer(s) submitted:

•

(incorrect)

3. (1 pt) Find the derivative of

$y = \sqrt{e^{-5t^2} + 9}$
$\frac{dy}{dt} =$ _____
Answer(s) submitted:

•

(incorrect)

4. (1 pt) Find the derivative of
$f(y) = e^{e^{(y^2)}}$
$f'(y) =$ _____
Answer(s) submitted:

•

(incorrect)

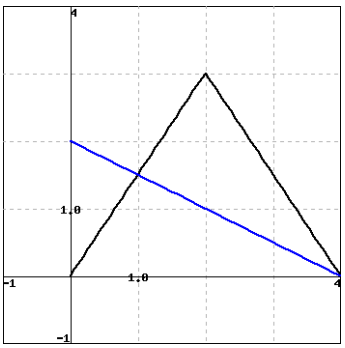
5. (1 pt) Find the derivative of

$f(x) = axe^{-bx+14}$
Assume that a and b are constants.
$f'(x) =$ _____
Answer(s) submitted:

•

(incorrect)

6. (2 pts) Use the graph below to estimate the indicated derivatives, or state that they do not exist. If a derivative does not exist, enter **dne** in the answer blank. The graph of $f(x)$ is black and has a sharp corner at $x = 2$. The graph of $g(x)$ is blue.



Let $h(x) = f(g(x))$. Find

A. $h'(1) =$ _____
B. $h'(2) =$ _____
C. $h'(3) =$ _____

(Enter **dne** *for any derivative that does not exist.)*
Answer(s) submitted:

•
•
•

(incorrect)

7. (2 pts) Given $F(1) = 7, F'(1) = 6, F(3) = 4, F'(3) = 1$ and $G(3) = 1, G'(3) = 1, G(4) = 6, G'(4) = 2$, find each of the following. (Enter **dne** for any derivative that cannot be computed from this information alone.)

A. $H(3)$ if $H(x) = F(G(x))$ _____
B. $H'(3)$ if $H(x) = F(G(x))$ _____
C. $H(3)$ if $H(x) = G(F(x))$ _____
D. $H'(3)$ if $H(x) = G(F(x))$ _____
E. $H'(3)$ if $H(x) = F(x)/G(x)$ _____

Answer(s) submitted:

•
•
•
•
•

(incorrect)

8. (1 pt) Find the derivative of $g(q) = \tan(\tan q)$
$g'(q) =$ _____
Answer(s) submitted:

•

(incorrect)

9. (1 pt) Find the derivative of $f(x) = 3x\sin(4x)$
$f'(x) =$ _____
Answer(s) submitted:

•

(incorrect)

10. (1 pt) Find the derivative of
$k(a) = \sin^6 a \cos^3 a$
$k'(a) =$ _____
Answer(s) submitted:

•

(incorrect)