Unleashing the toolbox

5/5 points (100%)

Quiz, 5 questions

✔ Congratulations! You passed!

Next Item

✔ 1 / 1 points

1.
In this assessment, you will be tested on all of the different topics you have in covered this module. Good luck!

What is the derivative of the function $f(x) = x^{3/2} + \pi x^2 + \sqrt{7}$ evaluated at the point $x = 2$?

- $f'(2) = \frac{3\sqrt{2}}{2} + 4\pi + \sqrt{7}$
- $f'(2) = \frac{3}{2} + 4\pi + \sqrt{7}$
- ✔ $f'(2) = \frac{3\sqrt{2}}{2} + 4\pi$

Correct
Well done!

- $f'(2) = \frac{3}{2} + 4\pi$

✔ 1 / 1 points

2.
What is the derivative of the function $f(x) = x^3 cos(x) e^x$?

- $f'(x) = -x^3 sin(x) + e^x x^3 + 3e^x x^2 cos(x)$

$f'(x) = -e^x x^3 sin(x) + e^x x^3 cos(x) + 3e^x x^2 cos(x)$

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Correct
Well done!

$f'(x) = -e^x x^3 sin(x) + e^x x^3 cos(x) + e^x x^2 cos(x)$

$f'(x) = -3x^2 sin(x) e^x$

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1 / 1 points

3.

What is the derivative of the function $f(x) = e^{[(x+1)^2]}$?

$f'(x) = e^{[(x+1)^2]}$

$f'(x) = (x+1)e^{[(x+1)^2]}$

$f'(x) = 2(x+1)e^{[(x+1)^2]}$

Correct
Well done!

$f'(x) = e^{2(x+1)}$

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1 / 1 points

4.

What is the derivative of the function $f(x) = x^2 cos(x^3)$?

$f'(x) = 2x sin(x^3) - 3x^4 sin(x^3)$

$f'(x) = 2x cos(x^3) - 3x^4 cos(x^3)$

$f'(x) = 2x cos(x^3) - 3x^4 sin(x^3)$

Correct

Well done!

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$f'(x) = 2xsin(x^3) - 3x^4cos(x^3)$

1 / 1 points

5.

What is the derivative of the function $f(x) = sin(x)e^{cos(x)}$ at the point $x = \pi$?

$f'(\pi) = \frac{1}{e}$

$f'(\pi) = -\frac{1}{e}$

Correct

Well done!

$f'(\pi) = \frac{1}{e^2}$

$f'(\pi) = -\frac{1}{e^2}$