✓ **Congratulations! You passed!**

Grade	Latest Submission	To pass 80% or
received 100%	Grade 100%	higher

Go to next item

---

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

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

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

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

○ $f'(2) = \frac{3}{2} + 4\pi$

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

⊘ **Correct**
Well done!

---

2. What is the derivative of the function $f(x) = x^3 cos(x)e^x$? **1 / 1 point**

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

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

○ $f'(x) = -3x^2 sin(x)e^x$

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

⊘ **Correct**
Well done!

---

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

○ $f'(x) = e^{2(x+1)}$

○ $f'(x) = (x+1)e^{[(x+1)^2]}$

⊙ $f'(x) = 2(x+1)e^{[(x+1)^2]}$

○ $f'(x) = e^{[(x+1)^2]}$

⊘ **Correct**
Well done!

---

4. What is the derivative of the function $f(x) = x^2 cos(x^3)$? **1 / 1 point**

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

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

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

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

⊘ **Correct**
Well done!

---

5. What is the derivative of the function $f(x) = sin(x)e^{cos(x)}$ at the point $x = \pi$? **1 / 1 point**

○ $f'(\pi) = \frac{1}{e^2}$

⊙ $f'(\pi) = -\frac{1}{e}$

○ $f'(\pi) = \frac{1}{e}$

○ $f'(\pi) = -\frac{1}{e^2}$

⊘ **Correct**
Well done!