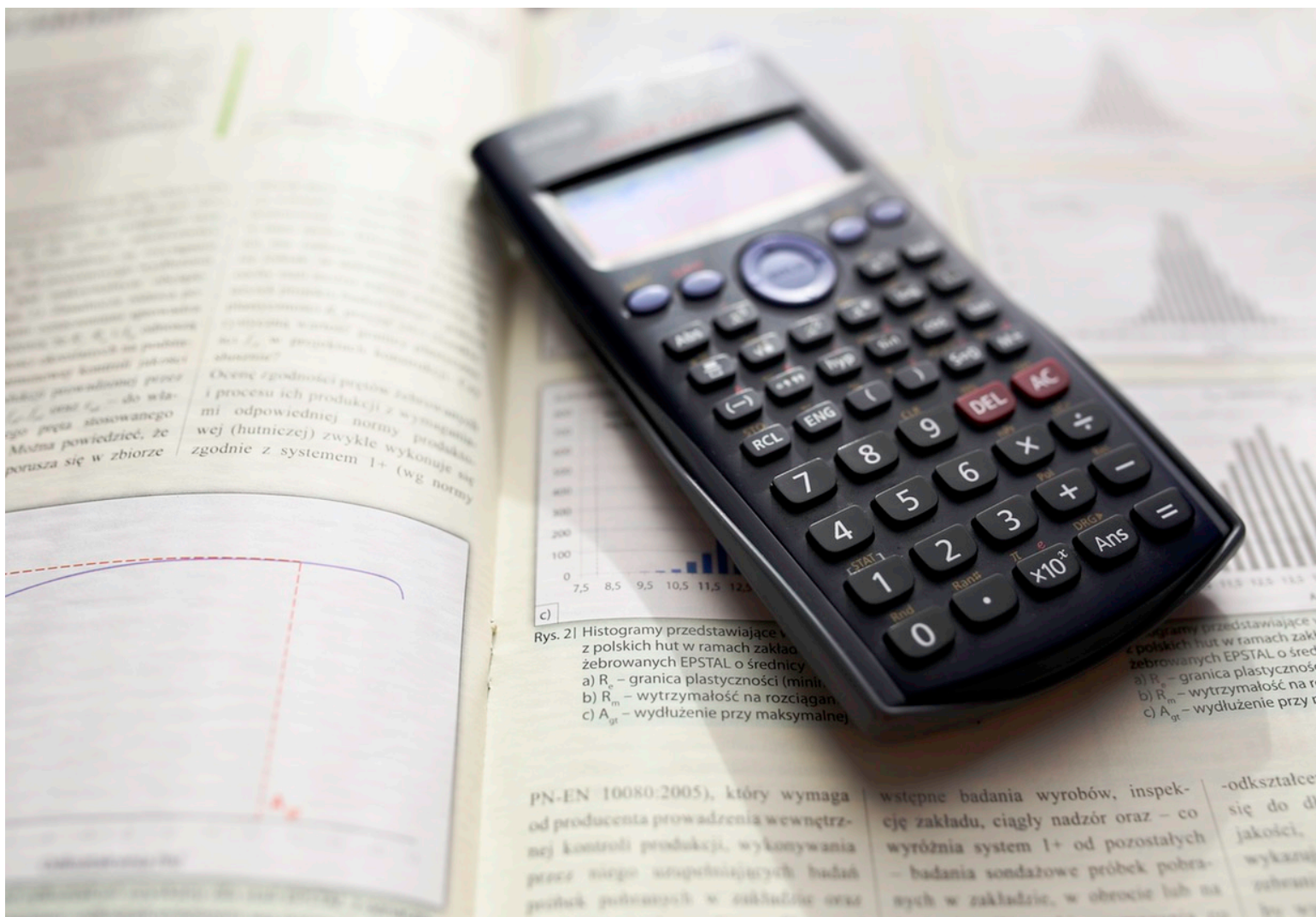


DIFFERENTIATION

FREE PRACTICE MINI TEST #1 MATHEMATICS METHODS – UNIT 3



Rys. 21 Histogramy przedstawiające...
z polskich hut w ramach zakła...
zbrowanych EPSTAL o średnicy
a) R_p – granica plastyczności (mini...
b) R_m – wytrzymałość na rozciąganie...
c) A_{gr} – wydłużenie przy maksymalnej

PN-EN 10080:2005), który wymaga
od producenta prowadzenia wewnętrz-
nej kontroli produkcji, wykonywania
przez niego uzupełniających badań
próbek pobranych w zakładzie oraz

wstępne badania wyrobów, inspek-
cję zakładu, ciągły nadzór oraz – co
wyróżnia system 1+ od pozostałych
– badania sondażowe próbek pobra-
nych w zakładzie, w obrocie lub na

-odkształcenie
się do dłu-
jakości,
wykazują
zobrazo-
by wy



ATAR Survival Guide: Mini Test

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Differentiation – Mini Test 1

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Section	Number of Questions Available	Number of Questions to Be Answered	Working Time (minutes)	Marks Available	Percentage of Paper
Non-Calculator	5	5	25	23	100%

Section 1: Non-Calculator

Question 1 (8 marks)

Differentiate:

i) $y = 5x^3$ (2 marks)

ii) $y = (2x^2 + 5)(7x + 12)$ (2 marks)

ii) $y = \frac{5x^3+2}{2x+7}$ (2 marks)

iv) $y = \frac{7x+5}{2x^3+3x}$ (2 marks)

Question 2 (3 marks)

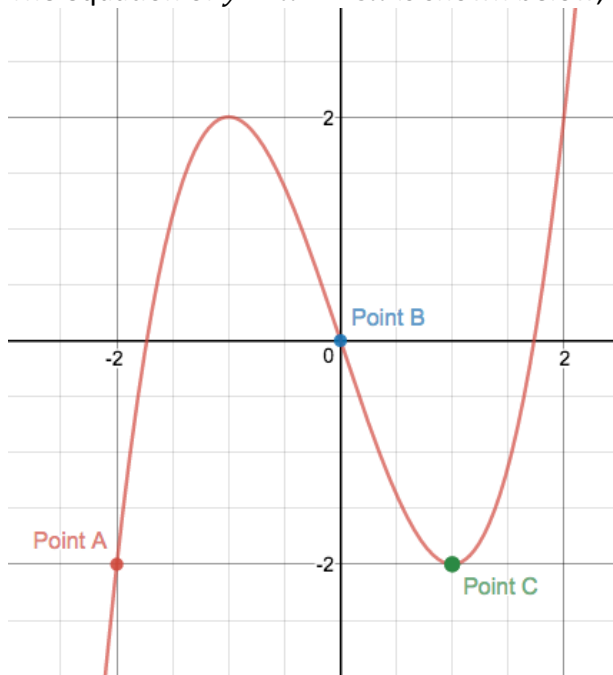
Find the equation of a line that passes through (5,25) and is situated on the curve $y = x^2$.

Question 3 (4 marks)

Find $\frac{dy}{dx}$ where $y = 2u^2 + u^3, u = 2x^2 + 2$

Question 4 (5 marks)

The equation of $y = x^3 - 3x$ is shown below, with the points A, B and C outlined.



Determine the gradient at the following points.

Point A (2 mark)

Point B (2 mark)

Point C (1 mark)

Question 5 (3 marks)

Differentiate $y = \sqrt{(10x + 3)}$ with respect to x .

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