INKMATHS FLASHCARDS

Further Pure 1 results and forms

12 cards · fronts and backs

Print double-sided, flipping on the long edge, and each answer lands behind its question. Cut along the card borders.

Definitions in precise wording, the standard results the formulae booklet does not print, a check-yourself question per topic, and the slips that lose marks. The same cards run on the website with spaced-repetition scheduling, at inkmaths.co.uk/flashcards.

STANDARD RESULT

t-formula:

$t = \tan(\theta)/(2)$: $\sin\theta = ?$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

t-formula:

$t = \tan(\theta)/(2)$: $\cos\theta = ?$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Weierstrass substitution:

$t = \tan(x)/(2)$: $dx = ?$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Taylor series:

$f(x) = ?$ about $x = a$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Parabola:

$y^2 = 4ax$: parametric point?

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Ellipse:

$(x^2)/(a^2) + (y^2)/(b^2) = 1$: $b^2 = ?$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Hyperbola:

$(x^2)/(a^2) - (y^2)/(b^2) = 1$: $b^2 = ?$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Vector product:

$|a \times b| = ?$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$\cos\theta = (1 - t^2)/(1 + t^2)$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$\sin\theta = (2t)/(1 + t^2)$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$f(a) + f'(a)(x - a) + (f''(a))/(2!)(x - a)^2 + \ldots$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$dx = (2\,dt)/(1 + t^2)$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$b^2 = a^2(1 - e^2)$, foci $(\pm ae, 0)$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$(at^2, 2at)$, tangent $ty = x + at^2$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$|a||b| \sin\theta$, the parallelogram's area

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$b^2 = a^2(e^2 - 1)$, foci $(\pm ae, 0)$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Scalar triple product:

tetrahedron volume = ?

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

Simpson's rule:

$\int y\,dx \approx ?$

FURTHER PURE 1: RESULTS AND FORMS

DEFINITION

Define: L'Hospital's rule.

FURTHER PURE 1: RESULTS AND FORMS

SPOT THE ERROR

Say what is wrong with this claim:

To solve $x/(x - 2) < 3$, multiply both sides by $x - 2$ and solve the result.

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$\frac{(h)}{(3)}(y_0 + 4y_1 + 2y_2 + \ldots + 4y_{n-1} + y_n)$

FURTHER PURE 1: RESULTS AND FORMS

STANDARD RESULT

$\frac{(1)}{(6)}\, a \cdot b \times c$

FURTHER PURE 1: RESULTS AND FORMS

SPOT THE ERROR

$x - 2$ is negative when $x < 2$, and multiplying by a negative reverses the inequality. Subtract to one side, combine over a common denominator, and read a sign diagram; the shortcut loses the whole interval $x < 2$.

FURTHER PURE 1: RESULTS AND FORMS

DEFINITION

For an indeterminate form $0/0$ or ∞/∞, the limit of f/g equals the limit of f'/g', provided that second limit exists.

FURTHER PURE 1: RESULTS AND FORMS