Name: _____ 5-a-day Further Maths

19th December

Corbettmaths

$-1 \leq c \leq 20$ and $-4 \leq d \leq -2$

Write down an inequality for each of the following

$d - c$

Max: $-2-(-1) = -1$

Min: $-4-20 = -24$

$-24 \leq d-c \leq -1$

$(c+d)^2$

$-5 \leq c+d \leq 18$

$0 \leq (c+d)^2 \leq 324$

$\frac{c^2}{d}$ $0 \leq c^2 \leq 400$

$-200 \leq \frac{c^2}{d} \leq 0$

$y = 9x^2$

Work out $\frac{dy}{dx}$ $\frac{dy}{dx} = 18x$

Work out

$(2+x)^5 + (2-x)^5$

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1

$2^5 = 32$

$5 \times 2^4 \times x = 80x$

$10 \times 2^3 \times x^2 = 80x^2$

$10 \times 2^2 \times x^3 = 40x^3$

$5 \times 2 \times x^4 = 10x^4$

$1 \times x^5 = x^5$

$2^5 = 32$

$5 \times 2^4 \times (-x) = -80x$

$10 \times 2^3 \times (-x)^2 = 80x^2$

$10 \times 2^2 \times (-x)^3 = -40x^3$

$5 \times 2 \times (-x)^4 = 10x^4$

$1 \times (-x)^5 = -x^5$

$32 + 80x + 80x^2 + 40x^3 + 10x^4 + x^5$

$+32 - 80x + 80x^2 - 40x^3 + 10x^4 - x^5$

$= 64 + 160x^2 + 20x^4$

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