Simplifying algebraic fractions

Exit ticket ANSWERS Name _____

1 Simplify fully $\frac{4x+24}{x+6}$

4

2 Simplify fully $\frac{x^2+9x+18}{x+3}$

X + 6

3 Simplify fully $\frac{x^2-x-12}{x-4}$

X + 3

The Maths Habit

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TESTS A common factor in the numerator and the denominator

LOOK FOR

4x + 4 the 6 cancelled into the 24: a term, not a factor

It cannot be simplified the 4 not taken out: $4x + 24 = 4(x + 6)$

FIX IT

Simplify fully $\frac{5x + 35}{x + 7}$ *5*

2 Simplify fully $\frac{x^2 + 9x + 18}{x + 3}$

x + 6

TESTS A quadratic over one of its factors

LOOK FOR

x^2 + 9x + 6 the 3 cancelled into the 18: a term, not a factor

x + 3 the wrong bracket kept: the one that cancels goes

FIX IT

Simplify fully $\frac{x^2 + 11x + 24}{x + 8}$ *x + 3*

3 Simplify fully $\frac{x^2 - x - 12}{x - 4}$

x + 3

TESTS The whole method, with minus signs in the quadratic

LOOK FOR

It cannot be simplified the signs swapped: $(x + 4)(x - 3)$ gives $+x$, not $-x$

x^2 – x + 3 −12 ÷ −4: a term cancelled, not a factor

FIX IT

Simplify fully $\frac{x^2 - 3x - 10}{x - 5}$ *x + 2*