

## Chapter 7 Project Part B – Solving Exponential Equations

NAME: \_\_\_\_\_

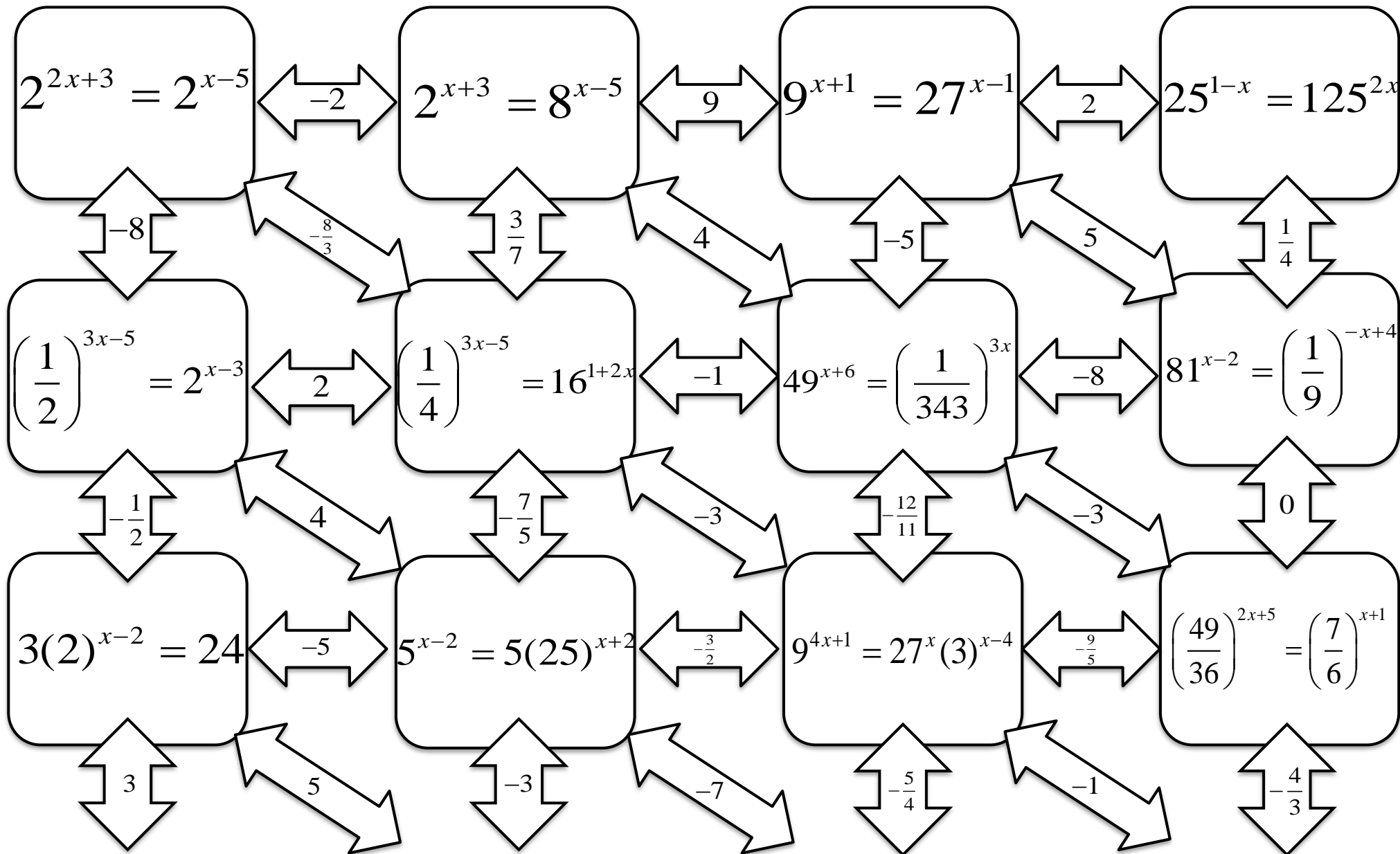
Solve the following equations showing all work on this sheet, then select the correct answer on the maze to find the correct path.

Colour the boxes and the arrows on the maze.

2 marks each = 24 marks + 1 for correct maze path → \_\_\_\_\_ / 25 marks

$2^{2x+3} = 2^{x-5}$	$2^{x+3} = 8^{x-5}$	$9^{x+1} = 27^{x-1}$	$25^{1-x} = 125^{2x}$
$\left(\frac{1}{2}\right)^{3x-5} = 2^{x-3}$	$\left(\frac{1}{4}\right)^{3x-5} = 16^{1+2x}$	$49^{x+6} = \left(\frac{1}{343}\right)^{3x}$	$81^{x-2} = \left(\frac{1}{9}\right)^{-x+4}$
$3(2)^{x-2} = 24$	$5^{x-2} = 5(25)^{x+2}$	$9^{4x+1} = 27^x (3)^{x-4}$	$\left(\frac{49}{36}\right)^{2x+5} = \left(\frac{7}{6}\right)^{x+1}$

Colour the correct box and arrow for the path through the maze for 1 mark



**A**

**B**

**C**

**D**