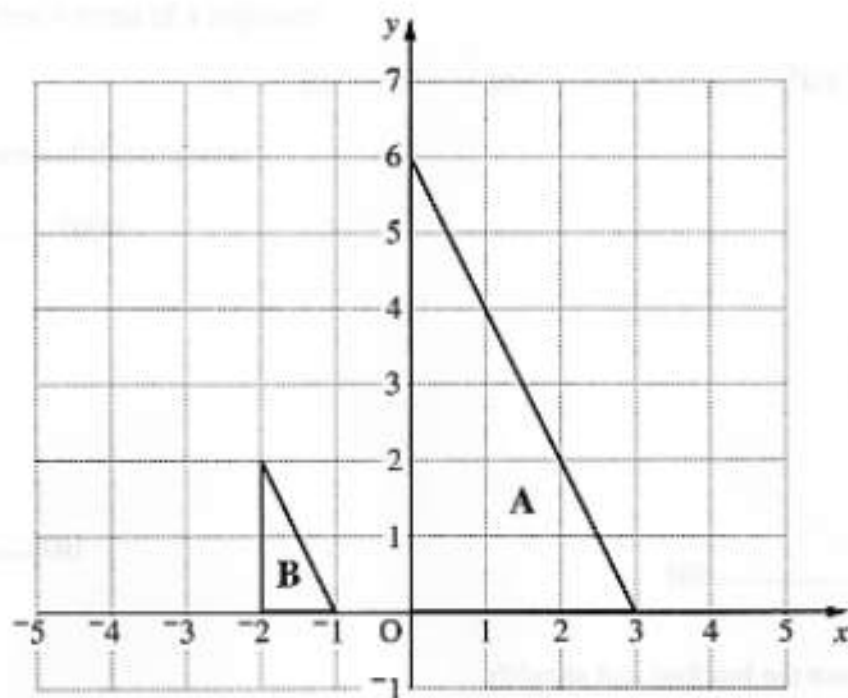


1



Describe fully the **single** transformation which maps triangle A onto triangle B.

[3]

3

- 2 (a) Which of the following fractions convert to a terminating decimal?  
Write Yes or No under each fraction.

$$\frac{3}{8} \quad \frac{2}{7} \quad \frac{1}{21} \quad \frac{5}{16} \quad \frac{17}{24}$$

[2]

- (b) Explain how you decide which fractions give terminating decimals.

[1]

3

3 (a) Simplify.

(i)  $2a^3 \times a^5$

(a)(i) ..... [1]

(ii)  $\frac{8y^7}{2y^2}$

(ii) ..... [1]

(b) Multiply out the brackets and simplify.

$$(x + 6)(x - 3)$$

(b) ..... [2]

(c) (i) Factorise.

$$3xy - 4x$$

(c)(i) ..... [1]

(ii) Hence, make  $x$  the subject of the formula.

$$3xy - 4x = 7$$

(ii) ..... [1]

(d) Here are the first 4 terms of a sequence.

3    12    21    30

Find the  $n$ th term of this sequence.

(d) ..... [2]

8

4



The maximum load that a fork lift truck can safely carry is 500 kg.  
Jasinder has 10 boxes, each weighing 50 kg to the nearest kilogram.

Is it safe for him to load all of these boxes on the fork lift truck at the same time?  
Explain your answer.

..... because .....

.....

.....

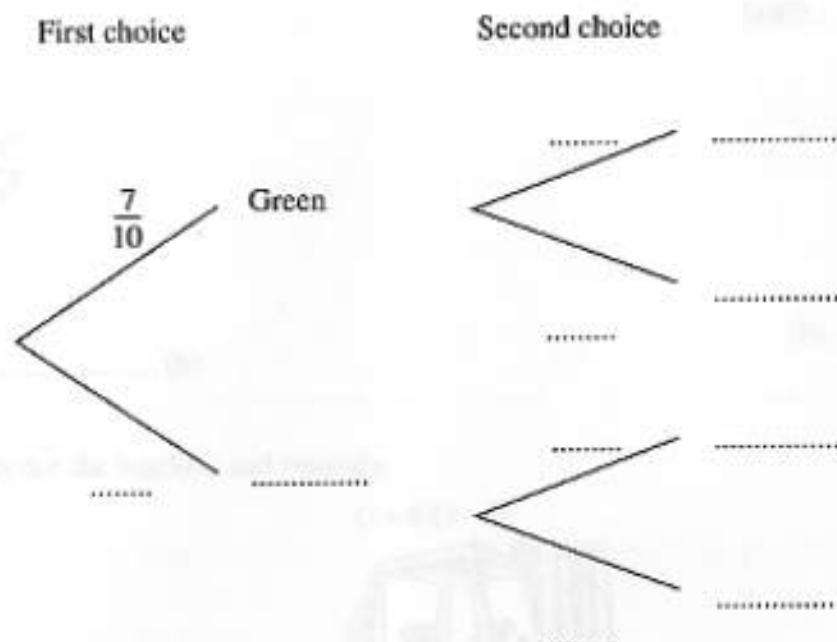
.....

[2]

2

- 5 There are 7 green discs and 3 yellow discs in a bag. Juliet chooses a disc at random, notes its colour and replaces it. She then chooses another disc.

(a) Complete the tree diagram to show Juliet's choices.



[2]

- (b) What is the probability that Juliet chooses one disc of each colour?

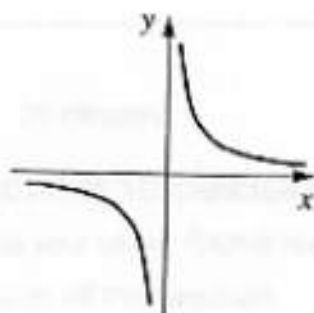
(b) ..... [3]

5

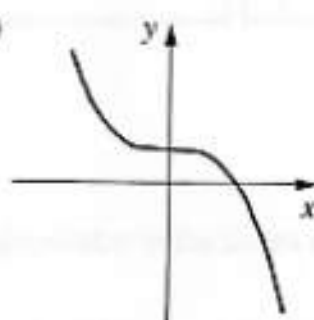
\*\*\*\*\* [2]

2

(i)



(ii)



Here are four equations.

$$y = \frac{1}{x}$$

$$y = 3 + x^3$$

$$y = -\frac{1}{x}$$

$$v = 3 - r^2$$

Match an equation to each of the graphs.

(i) Equation ..... (ii) Equation ..... [2]

2