ADRIATIC
COLLEGE

Pearson:
UpperSecondary One Mathematics Demo Entrance Test

Private International School
Montenegro, Budva

adriaticcollege.com

UpperSecondary 1
Candidate's name _____

- *Answer all questions.*
- *Tima allocated is 1 hour.*
- *The total mark for this paper is 33.*
- *The marks for each question are shown in brackets.*
- *Candidates may NOT use a calculator and may use pen, pencil, ruler and eraser.*

1. [4] Solve the equation

$(x - 2\sqrt{2})(x + 2\sqrt{2}) = 72$

2. [3] Factorize

$x^2 + x - 30$

3. [3] Simplify

$b^4 - 2b^3 + 27b - 54$

4. [3] Solve the simultaneous equations.

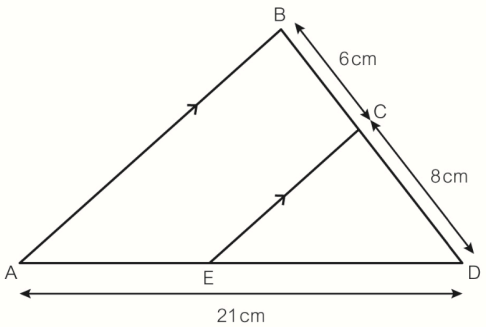
$2x - 2y = 14$

$3x + 3y = 9$

5. [4] Paolo has \$120. He spends 30% of the money on a rucksack. He spends $\frac{1}{4}$ of the money on a jumper. How much money has Paolo got left?

6. [4] A car leaves a country town at 60 km per hour. Two hours later, a second car leaves the town; it catches the first car after 5 more hours. Find the speed of the second car.

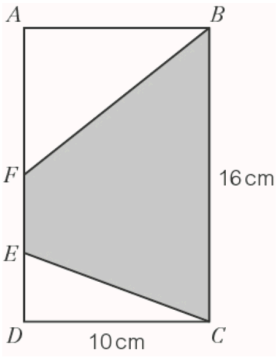
7.



a) [2] Explain why triangle ABD and triangle ECD are similar.

b) [2] Calculate the length of DE

8. [4] The diagram shows rectangle ABCD



$BC = 16\ cm$
$DC = 10\ cm$
$AF = \frac{1}{2} AD$
$ED = \frac{1}{4} AD$

Work out the area of the region shown shaded in the diagram.

9. [4] The points C and D are (1, −1) and (4, 8).
Work out the equation of the line through C and D.

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