Very Colourful Envelopes Activity!

Question #1

A rectangular lawn measures 5 m by 7 m. A uniform border of flowers is to be planted along two adjacent sides of the lawn. If the flowers that have been purchased will cover an area of 6.25 m², how wide is the border?

Question #2

The base of a triangle is 2 cm more than the height. The area of the triangle is 5 cm². Find the base to the nearest tenth of a cm.

Question #3

The length of a rectangle is 2 m more than the width. The area of the rectangle is 20 m². Find the dimensions of the rectangle, to the nearest tenth of a metre.

Question #4

The sum of an integer and its square is 210. Find the integer.

Question #5

A square of side length x+1 has an area of 6 square units. Find the value of x, to the nearest hundredth.

Question #6

The sum of two numbers is 14 and their product is 37. What are the numbers in simplest radical form? What are the numbers rounded to the nearest thousandth?

Question #7

Subtracting a number from half its square gives a result of 13. Express the possible values of the number in simplest radical form.

Question #8

Solve and express each solution in simplest radical form:

(a) $x(x+3) = 2x(x+5)+1$

(b) $3(x-1)^2 = (x+1)(2x+1)$

(c) $\frac{1}{2}(x+2)^2 = \frac{1}{3}(2x-1)^2$

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Answers:

#1 0.5 m	#2 4.3 cm	#3 3.6 m by 5.6 m	#4 14 or -15
#5 1.45	#6 a) $7 \pm 2\sqrt{3}$	#6 b) 3.536, 10.464	#7 $1 \pm 3\sqrt{3}$

#8 (a) $\dfrac{-7 \pm 3\sqrt{5}}{2}$ (b) $\dfrac{9 \pm \sqrt{73}}{2}$ (c) $2 \pm \sqrt{6}$