15+13

UNIT 7 TEST - POLYNMIALS

28/K/9 A

1) Expand and simplify

A) $(x+6)(x-3)$ B) $(2x-3)^2$ C) $(x-7)(x-5)$

(2x-3)(2x-3)

$x^2+3x-18$ $4x^2-12x+9$ $x^2-12x+35$

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

9

2) Factor each completely.(Use the greatest common factor)

A) $4x-10x^2$ B) $5x^3-10x^2+15x$ C) $6x^2-9$

6

$2x(2-5x)$ $5x(x^2-2x+3)$ $3(2x^2-3)$

✓ ✓ ✓ ✓ ✓ ✓

15

3) Factor each difference of squares

A) $(9x^2 - 16)$

$(3x-4)(3x+4)$

✓ ✓

B) $(x^2 - 36)$

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

✓ ✓

4

30×1
15×2
10×3

4) Factor each trinomial

A) $x^2 - 5x - 24$

$(x-8)(x+3)$

✓ ✓ ✓

B) $x^2 + 7x - 30$

$(x+10)(x-3)$

✓ ✓ ✓

C) $x^2 - 8x + 12$

$(x-6)(x-2)$

✓ ✓ ✓

6 9

13

1) The rectangle below has an area represented by the trinomial $x^2 - 9x + 20$. Factor the trinomial to determine expressions for the length and width of the rectangle.

Area = $x^2 - 9x + 20$

$A = (x-5)(x-4)$ ✓ ✓

4

B) Determine the actual length and width of the rectangle if $x = 12m$.

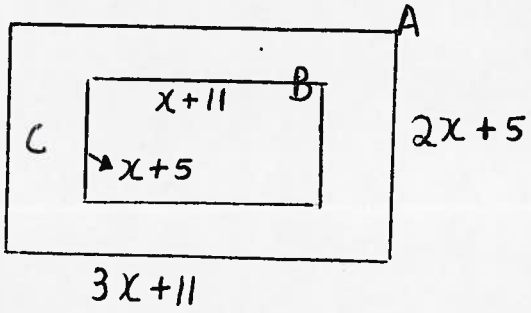
$A = L \times W$

$L = x - 5 = 12 - 5 = 7m$ ✓

$L = x - 4 = 12 - 4 = 8m$ ✓

2) A tennis court with a concrete border around all four sides is shown below. Area = Length × Width

A) Write an expression for the total area of the rectangle (entire space).
B) Write an expression for the area of just the tennis court.
C) Determine an expression for just the concrete pad around the four sides of the tennis court.



Area A = $(2x+5)(3x+11)$

$A = 6x^2 + 22x + 15x + 55$ ✓

$A = 6x^2 + 37x + 55$ ✓

5

Area B = $(x+5)(x+11)$

$B = x^2 + 11x + 5x + 55$ ✓

$B = x^2 + 16x + 55$ ✓

Area C = $A - B = 5x^2 + 21x$ ✓