1) Rewrite: $\sqrt{2} * \sqrt{72} * \sqrt{5}$

$\sqrt{2} \cdot 6\sqrt{2} \cdot \sqrt{5}$

$6\sqrt{2 \cdot 2 \cdot 5} = \boxed{12\sqrt{5}}$

$6\sqrt{2}$

2) Is the sum of $\sqrt{3}$ and $\frac{1}{3}$ rational or irrational?

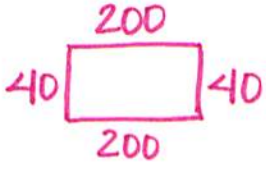
Irrational

3) Is the sum of $0.0\overline{675}$ and 8 rational or irrational?

Rational

4) A rectangle has a length of 2 meters and a width of 40 centimeters. What is the perimeter of the rectangle?

2m = 200 cm



P = 480 cm or 4.8 m

5) Consider the expression $3n^2 + n + 2$.

a. What is the coefficient of n?

1

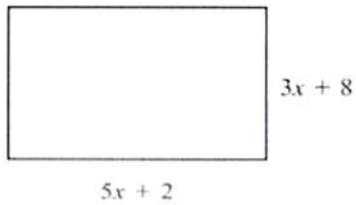
b. What terms are being added in the expression?

$3n^2$, n, 2

6) Look at one of the formulas for the perimeter of a rectangle where *l* represents the length and *w* represents the width: 2(l + w). What does the 2 represent in this formula?

The fact that you have to add 2 lengths & 2 widths when finding the perimeter allows the formula 2(l+w) to be used.

7) The dimensions of a rectangle are shown.
What is the perimeter, in units, of the rectangle?



$P = 2(3X+8) + 2(5X+2)$

$6X + 16 + 10X + 4$

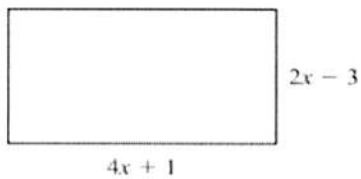
$P = 16X + 20$ units

8) Rewrite the expression $(x^3 + 2x^2 - x) - (-x^3 + 2x^2 + 6)$ so that it is simplified.

$X^3 + \cancel{2X^2} - X + X^3 - \cancel{2X^2} - 6$

$= 2X^3 - X - 6$

9) The dimensions of a patio, in feet, are shown.
What is the area of the patio, in square feet?



$A = (4X+1)(2X-3)$

$A = 8X^2 - 12X + 2X - 3$

$A = 8X^2 - 10X - 3$ ft.^{2}