Name:

SN-10 End of Term review Assignment

1) Factor the following expressions:

a) $2a + 2b$

b) $21r^3s^2 - 14r^2s$

c) $x^2 + 8x + 7$

d) $x^2 - 36$

e) $9x^2 - 49y^2$

f) $16x^4 - 81$

g) $x^2 - 6x - 16$

h) $x^2 + 2x - 48$

i) $2x^3 - 4x^2 - 6x$

j) $x^2 + 2x + xy + 2y$

k) $3a^2 - 2b - 6a + ab$

l) $n^2 + 2n + 3mn + 6m$

m) $2n^2 - 3n - 14$

n) $5h^2 - 2h - 7$

o) $6x^2 + 19x + 15$

p) $x + 6x + 10$

q) $(x - 2)^2 - 49$

2) Solve the following equations:

a) $3x - 10 = 2$

b) $8x - 10 = -4x + 20$

c) $m^2 + 10m = -21$

b) $51 - 20k = k^2$

e) $3x^2 + 16x - 20 = 2x^2 + 10x + 20$

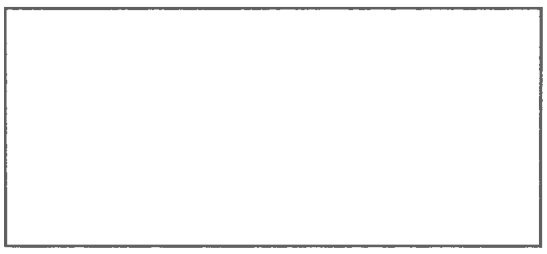
3) Simplify expressions 1 to 4. Then by using the pattern of your answers, determine the expression for box number 5.

Expression Number	Expression	Simplified Expression
1	$\frac{x^2-4}{x^2+4x+3} \cdot \frac{x^2+4x+3}{x^2+3x+2}$	
2	$\frac{2x^2-x-6}{x+1} \div \frac{x^2-4x+4}{x+1}$	
3	$\frac{7x-10}{x+3} + \frac{14-4x}{x+3}$	
4	$\frac{8x-11}{x-4} - 4$	
5	$\frac{5x^2-19x-30}{?}$	

4) Solve the following using long division

$(6x^3 - 23x^2 + 7x + 10) \div (2x + 1)$

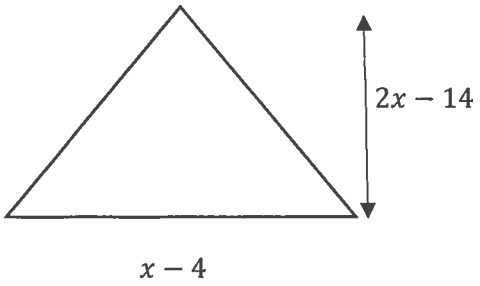
5) The rectangle shown below has an area of 234 cm^2. Determine its perimeter.

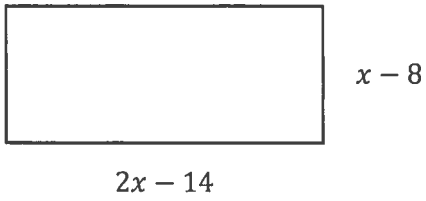


$2x - 3$

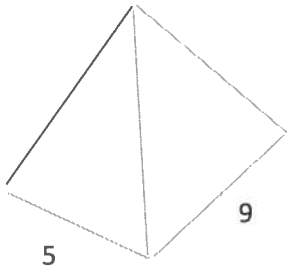
$x + 10$

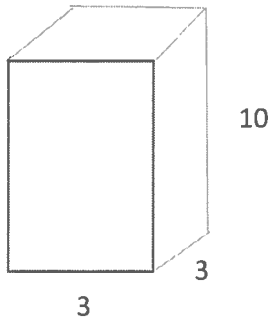
6) The following shapes are considered to be equivalent. Determine their area.





7) The figures below are a rectangular-based pyramid and square-based prism. They are equivalent. Determine the height of the pyramid.





8) A company is looking for ways to reduce their costs and asked if there was a way to reduce the amount of packaging they use. Currently they use cubes that have a side-length of 10 cm. It was proposed that they use an equivalent prism shown below. Would this save on the amount of packaging material, and if so by how much?