Factors and Products Review

Multiple Choice:

1.) In factored form, $8m^2 + 16m - 10$ can be represented as

a) $2(2m-1)(2m+5)$ c) $2(4m+10)(2m-5)$

b) $(4m^2+20)(2m-4)$ d) $(4m-2)(2m+5)$

2.) Identify which expression represents a perfect square trinomial.

a.) x^2-4x-4 b.) m^2-9m+9 c.) a^2-4a+4 d.) n^2-n+1

Short Answer – Simplify the Following Expressions

1.) State the Greatest Common Factor (GCF) of 48 and 64. 16
2.) State the Lowest Common Multiple (LCM) of 12, 9 and 4. 36
3.) Simplify: $(4x^2-3x+2)-(8x^2-5x+4)$ $-4x^2+2x-2$
4.) Expand and simplify: $2t^2(7t+6)$ $14t^3+12t^2$
5.) If a square has an area of 144 cm^2, determine its side length. 12 cm
6.) Factor: $3a^3-18a^2$ $3a^2(a-6)$
7.) Write the Prime Factorization of 192. $2^6 \cdot 3$
8.) Expand and simplify: $(3x+5)(2x-4)$ $6x^2-2x-20$
9.) Multiply: $(3xy)(-2x^2y^3)$ $-6x^3y^4$

Long Answer

1.) Expand and simplify: $(3c-4d)(7-6c+5d)$ $-18c^2+21c+39cd-28d-20d^2$
2.) Factor: $3y^2-7y+2$ $(3y-1)(y-2)$
3.) The side length of a cube is $(s+2)$cm. Write an expression to represent the volume of the cube. $s^3+6s^2+12s+8$
4.) Factor: $m^2-9mn+14n^2$ $(m-7n)(m-2n)$
5.) The face of a Canadian \$20 bill has an area that can be represented by the expression $10x^2+9x-40$. Determine expressions to represent the dimensions of the bill. $(5x-8)(2x+5)$
6.) Expand and simplify: $(2t+1)^2-(3t+1)$ $4t^2+t$

Extra review: pg. 198-201