Algebra 1 Name_____

Over the Break Work

Date_____ Period____

Factor each completely.

1) $30v^3 - 18v^2 + 5v - 3$

2) $24n^3 + 40n^2 + 9n + 15$

3) $x^2 - 12x + 27$

4) $v^2 - 12v + 35$

5) $2m^2 - 18m + 28$

6) $7m^2 + 15m + 8$

7) $15m^2 + 85m - 280$

8) $9n^2 + 39n - 168$

9) $16v^2 - 25$

10) $k^2 - 25$

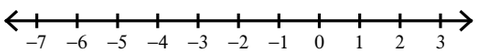
Simplify. Your answer should contain only positive exponents.

11) $\dfrac{-x^0 \cdot \left(-x^2\right)^2}{-2x^0 y^{-4}}$

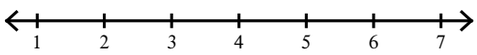
12) $\left(\dfrac{a^2 b^0}{2a^{-2} b^0 \cdot 2a^2 b^4}\right)^{-4}$

Solve each inequality and graph its solution.

13) $|x+3|<3$



14) $|r-5|<1$



Find each product.

15) $(8v+7)^2$

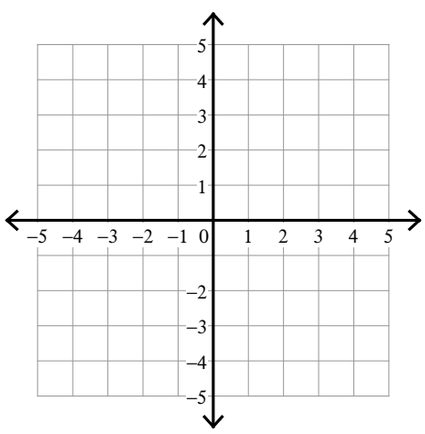
16) $(8x-2)(8x+2)$

17) $(v-8)(v^2-6v+3)$

18) $(8k+3)(4k^2+6k-7)$

Sketch the solution to each system of inequalities.

19) $x-3y<-6$
$5x-3y>6$



20) $x-3y>-6$
$4x+3y>-9$