

Summer Math Assignment: Show all work for credit.**Solve each equation.**

1) $6(-4n - 1) - 4 = 182$

2) $-7(1 - 2n) = 105$

3) $-6(8 - 6x) + 4x = -208$

4) $-2(1 - x) = 18 + 6x$

5) $-6(1 - 6b) - 6 = 26 - 2b$

6) $-4(2 - 5n) = 19 - 7n$

7) $7(-3 + 2b) = 18 + b$

Factor the greatest common factor out of each expression.

8) $6a^4 - 22a^2$

9) $45n^4 - 30n^3 - 20n^2$

10) $9a^6 + 18a^4$

Factor each completely. Remember to check for GCF first.

11) $5x^2 - 30x - 135$

12) $6v^2 - 12v - 90$

13) $x^2 - 16x + 64$

14) $m^2 - 7m - 18$

15) $a^2 + a - 20$

16) $a^2 - 6a - 16$

$$17) v^2 + 2v - 35$$

$$18) b^2 + 8b + 15$$

$$19) 4a^2 + 5a - 6$$

$$20) 9v^2 + 82v - 80$$

$$21) 9x^2 + 86x - 40$$

$$22) 6r^2 - 17r - 3$$

$$23) 4n^2 + 15n - 25$$

$$24) 8v^2 - 57v + 54$$

$$25) 6b^2 - 25b + 14$$

$$26) 9v^2 - 44v - 60$$

Factor each completely.

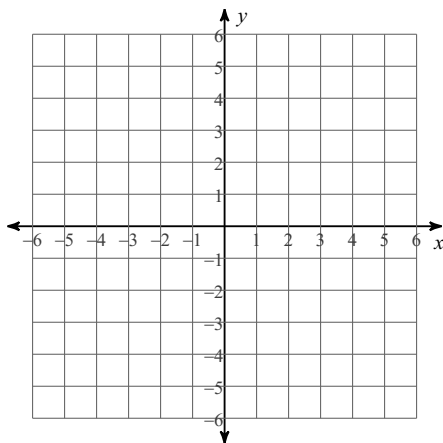
27) $4p^2 - 9$

28) $25n^2 - 9$

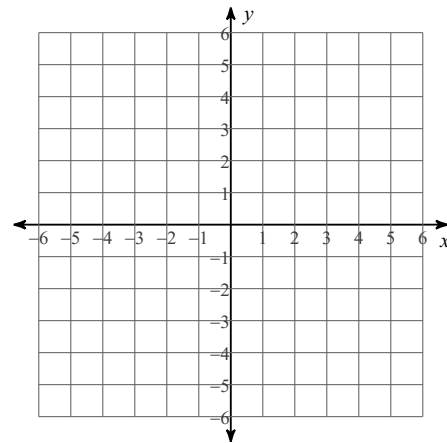
29) $25p^2 - 16$

Sketch the graph of each line. Identify the slope and y-intercept.

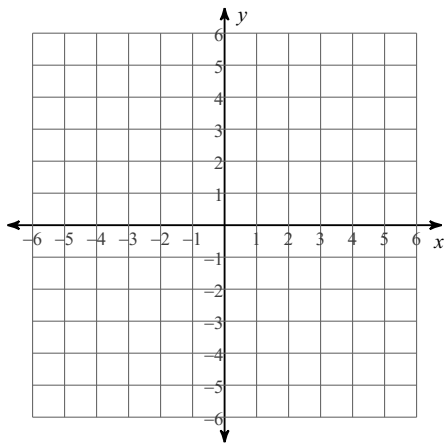
30) $y = \frac{4}{3}x + 3$



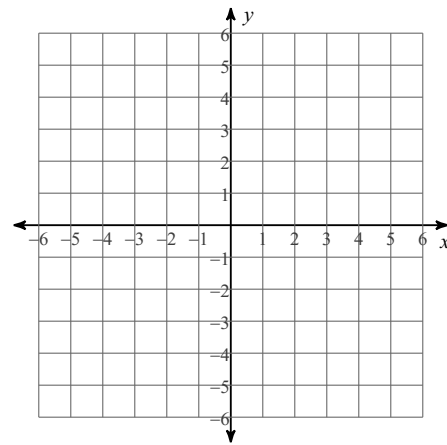
31) $y = 2x + 4$



32) $4x + 5y = -20$

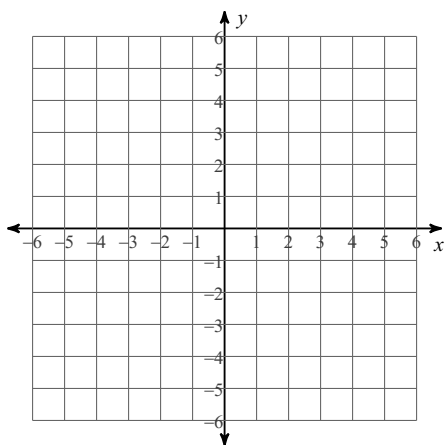


33) $4x - y = -1$

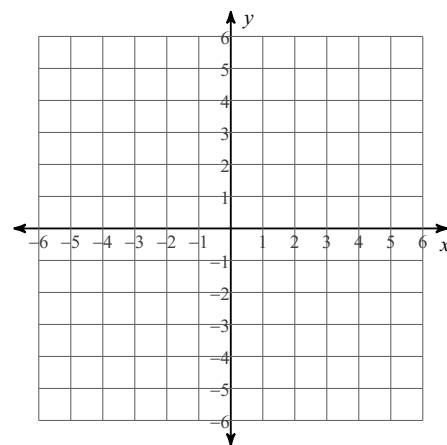


Sketch the graph of each linear inequality.

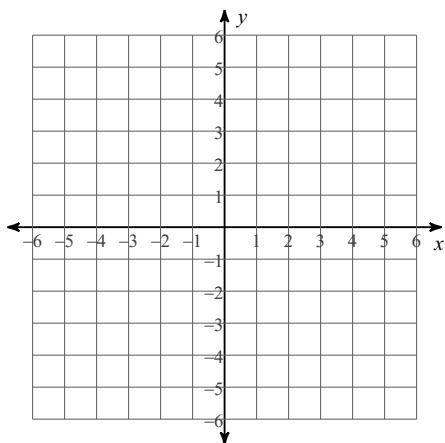
34) $y > -\frac{1}{5}x - 2$



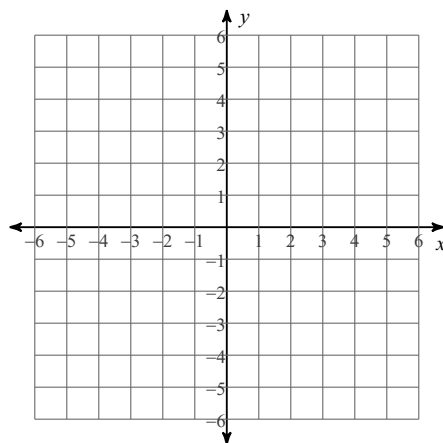
35) $y > \frac{1}{4}x - 3$



36) $4x - y > 1$



37) $x + 3y \leq 6$



Find each product.

38) $(6b - 7)(b + 3)$

39) $(7b - 4)(6b - 2)$

40) $(n^2 + 2n + 5)(n + 2)$

41) $(4k^2 - 4k + 1)(4k - 3)$

Solve each equation by factoring.

42) $r^2 = -9r - 8$

43) $x^2 - 3x = 4$

44) $5n^2 = 35 - 18n$

45) $5v^2 + 31v = -30$

Simplify each expression.

46) $\frac{1}{n-4} \cdot \frac{2n^3 - 14n^2}{2n^2}$

47) $\frac{1}{m+1} \div \frac{20m-40}{16m-32}$

48) $\frac{n^2 - 15n + 56}{3n^3 - 24n^2} \div \frac{1}{3n}$

49) $\frac{10m+40}{10} \div \frac{m+4}{7}$