Incoming Honors Geometry Students Name_____ ID: 1

© 2021 Kuta Software LLC. All rights reserved.

Summer Homework

Date_____ Period____

Solve each equation.

1) $-5 = 6x + 4 + 3$

2) $21 = 4 + 4x - 3$

3) $14 = 2 - 7n + n$

4) $4x - 2 + 7x = -24$

5) $8(x + 2) + x = 88$

6) $-209 = 7(1 - 4b) + b$

7) $-306 = -6(-5 + 8x)$

8) $-3(1 - 6n) - 2n = 109$

9) $-8p + 17 = -5(1 + 6p)$

10) $1 - 2(r + 3) = -10 - r$

11) $-4(1 + 3n) = -7n - 19$

12) $-3 + 5v = v - 7$

© 2021 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 1.

Solve each proportion.

13) $\frac{n}{9} = \frac{10}{5}$

14) $\frac{6}{9} = \frac{b+1}{3}$

15) $\frac{9}{x} = \frac{8}{x-6}$

16) $\frac{9}{n-4} = \frac{8}{n}$

Simplify. Your answer should contain only positive exponents.

17) $4x^3 \cdot 3x^0$

A) $6x^4$ B) $8x^3$

C) $12x^3$ D) $\frac{12}{x^2}$

18) $2p^{-4} \cdot 4p^0$

A) $\frac{2}{p^2}$ B) $2p$

C) $\frac{8}{p^4}$ D) $3p^2$

19) $\left(3n^{-1}\right)^3$

A) $\frac{27}{n^3}$ B) $\frac{1}{n^2}$

C) $-\frac{n^3}{27}$ D) $9n^8$

20) $\left(-4x^2\right)^3$

A) $-\frac{x^2}{3}$ B) $-64x^6$

C) $\frac{1}{x^3}$ D) $\frac{1}{16x^{12}}$

21) $\frac{3p^{-1}}{p^4}$

A) $\frac{3}{p^5}$ B) $\frac{1}{p^7}$

C) $\frac{3p^3}{2}$ D) p^3

22) $\frac{4b^2}{3b}$

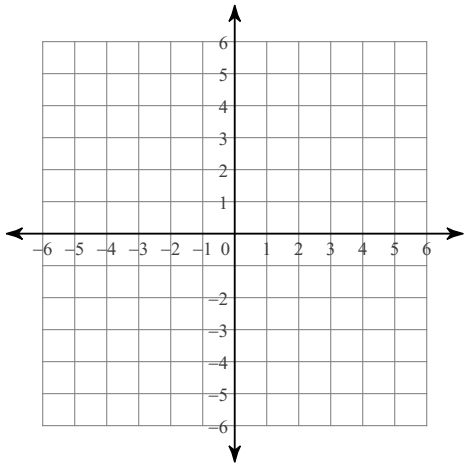
A) $\frac{4b}{3}$ B) $3b$

C) $\frac{4b^7}{3}$ D) $\frac{2}{3b^4}$

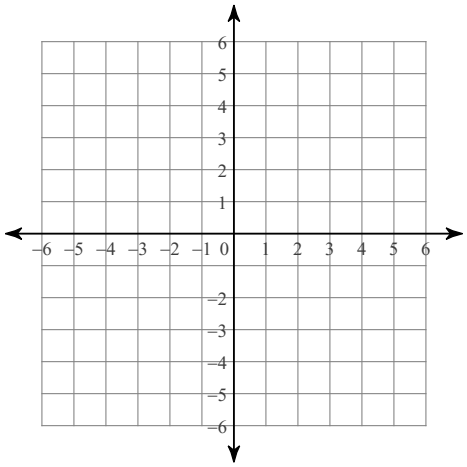
© 2021 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 1.

Sketch the graph of each line.

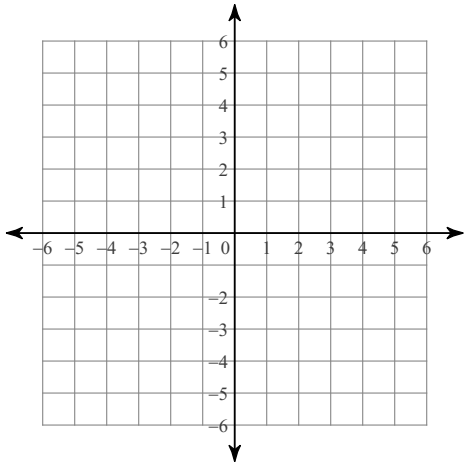
23) $y = -2x$



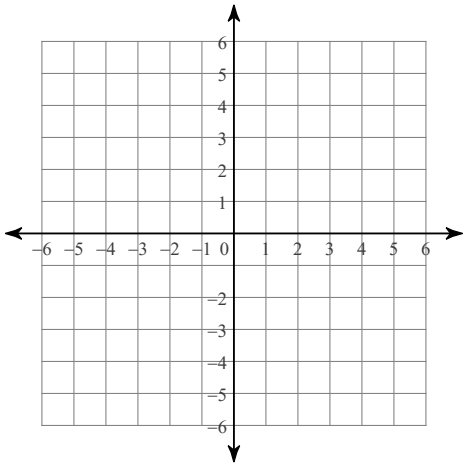
24) $y = 3x - 5$



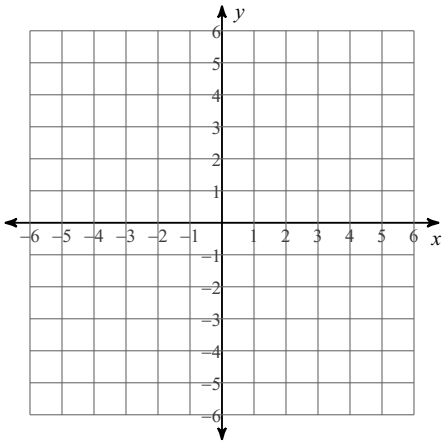
25) $y = \frac{2}{3}x + 3$



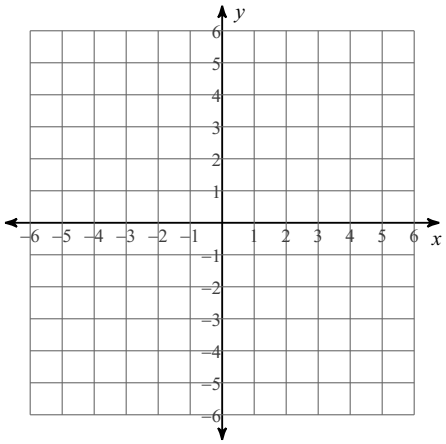
26) $x = -4$



27) x-intercept = 4, y-intercept = 1



28) x-intercept = 3, y-intercept = –5

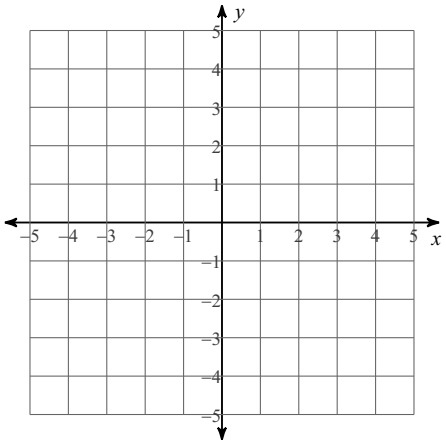


© 2021 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 1.

Solve each system by graphing.

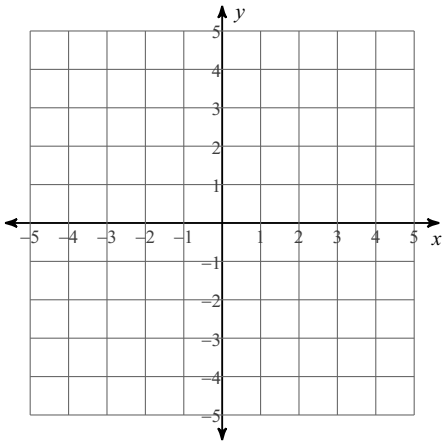
29) $y = \frac{3}{2}x + 2$

$y = \frac{1}{4}x - 3$



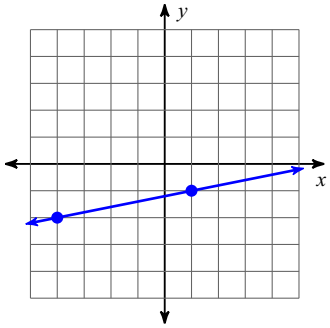
30) $y = -x - 2$

$y = -6x + 3$

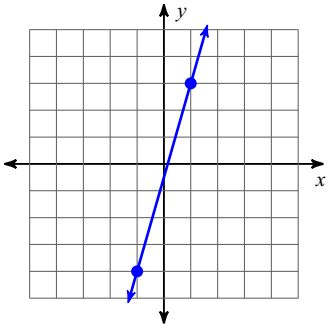


Find the slope of each line.

31)



32)



Find the slope of the line through each pair of points.

33) $(13, 17), (13, 19)$

34) $(2, 15), (19, -17)$

Find each product.

35) $(3k - 7)(8k + 5)$

36) $(2n - 7)(5n + 6)$

37) $(a - 5)(2a - 1)$

38) $(8x + 3)^2$

© 2021 Kuta Software LLC. All rights reserved.

Made with Infinite Algebra 1.

Solve each system by elimination.

39) $-4x - 8y = 0$
$-x - 4y = -4$

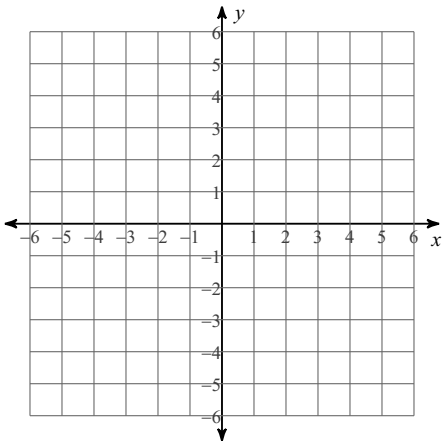
40) $-6x + 3y = -9$
$8x - 6y = -6$

41) $-5x + 3y = 12$
$-9x + 4y = 30$

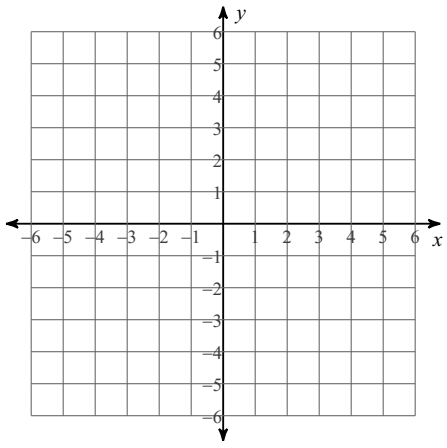
42) $4x + 6y = -2$
$-5x - 7y = 2$

Sketch the graph of each linear inequality.

43) $y \geq -\frac{2}{3}x$



44) $y < -\frac{1}{5}x + 5$



© 2021 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 1.

Factor the common factor out of each expression.

45) $3r^4 + 7r^3 + 9r^2$

46) $30r^5 + 35r^4 + 40r^2$

Factor each completely.

47) $b^2 + 2b - 63$

48) $3m^2 - 24m + 36$

49) $2b^2 - 12b$

50) $n^2 - 25$

51) $n^2 - 3n - 70$

52) $b^2 + 4b$

53) $16x^2 - 1$

54) $9n^2 + 6n + 1$

55) $25p^2 - 9$

56) $16n^2 - 8n + 1$

57) $12v^3 - 8v^2 - 15v + 10$

58) $56x^3 + 49x^2 - 24x - 21$

59) $28x^3 - 49x^2 + 4x - 7$

60) $35x^3 + 40x^2 + 49x + 56$

© 2021 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 1.

Simplify.

61) $\sqrt{192}$

62) $\sqrt{216}$

63) $\sqrt{150}$

64) $\sqrt{128}$

65) $\sqrt{175}$

66) $\sqrt{24}$

67) $\sqrt{98}$

68) $\sqrt{343}$

69) $-3\sqrt{150}$

70) $4\sqrt{256}$

71) $-6\sqrt{32}$

72) $-7\sqrt{343}$

73) $\frac{\sqrt{5}}{3\sqrt{2}}$

74) $\frac{4\sqrt{5}}{3\sqrt{2}}$

75) $\frac{\sqrt{16}}{3\sqrt{20}}$

76) $\frac{3\sqrt{4}}{\sqrt{3}}$

77) $\frac{2\sqrt{5}}{\sqrt{2}}$

78) $\frac{\sqrt{10}}{\sqrt{6}}$

79) $3\sqrt{5} + 3\sqrt{5}$

80) $-\sqrt{6} + 2\sqrt{6}$

81) $3\sqrt{6} - \sqrt{24}$

82) $-3\sqrt{24} + 2\sqrt{24}$

83) $-\sqrt{54} - 2\sqrt{54}$

84) $3\sqrt{3} - \sqrt{27}$

© 2021 Kuta Software LLC. All rights reserved.

Made with Infinite Algebra 1.

Write the slope-intercept form of the equation of the line through the given point with the given slope.

85) through: $(-5, 2)$, slope = undefined

86) through: $(-4, -2)$, slope = $-\frac{1}{4}$

Write the slope-intercept form of the equation of the line through the given points.

87) through: $(-1, -4)$ and $(-4, 3)$

88) through: $(0, -1)$ and $(5, 2)$

Write the slope-intercept form of the equation of the line described.

89) through: $(-5, 1)$, parallel to $y = -\frac{2}{7}x + 3$

90) through: $(0, -5)$, parallel to $y = -2$

91) through: $(-5, 3)$, perp. to $y = \frac{5}{6}x + 2$

92) through: $(-3, 5)$, perp. to $y = \frac{1}{2}x - 1$

Solve each equation for the indicated variable.

93) $ak = \frac{w}{v}$, for a

94) $ak = wv$, for a

95) $u = x + k - y$, for x

96) $u = kab$, for a

© 2021 Kuta Software LLC. All rights reserved.

Made with Infinite Algebra 1.