

Christ the King Diocesan High School

Geometry

Summer Math Packet 2024

This packet will help you review basic algebra concepts.

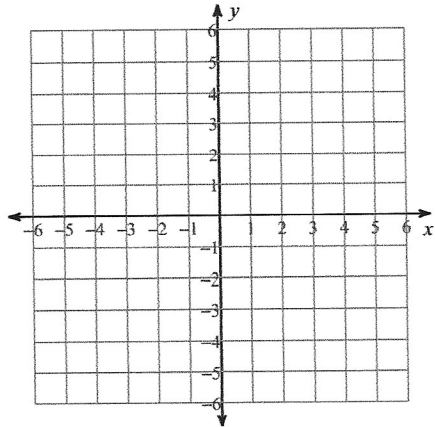
- Please show all your work. No work, No credit!
(If you need more room, use loose-leaf paper to do your work and staple it to the corresponding worksheet.)
- You will be expected to do a worksheet every week.
- Do not wait to do all of the worksheets at one time.
- The COMPLETED packet is due August 16, 2024

Page 1 Linear Equations

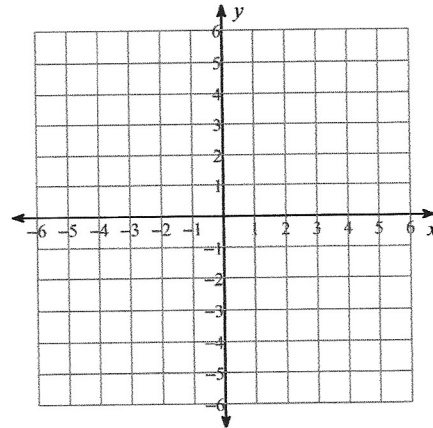
Date _____

Sketch the graph of each line.

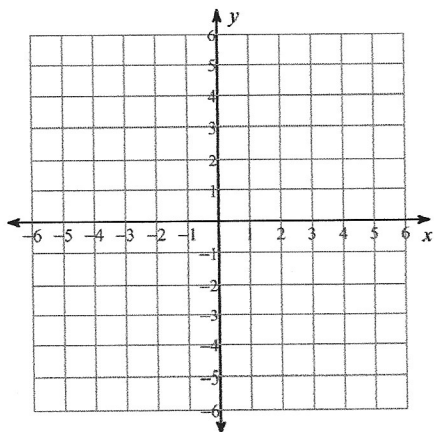
1) $y = \frac{3}{5}x - 5$



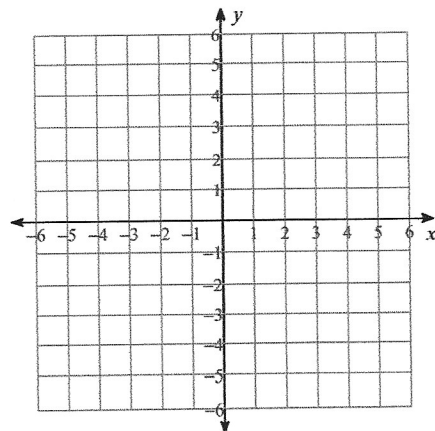
2) $y = \frac{3}{2}x + 4$



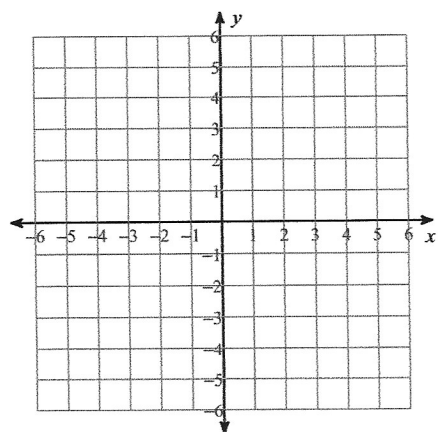
3) $x = -1$



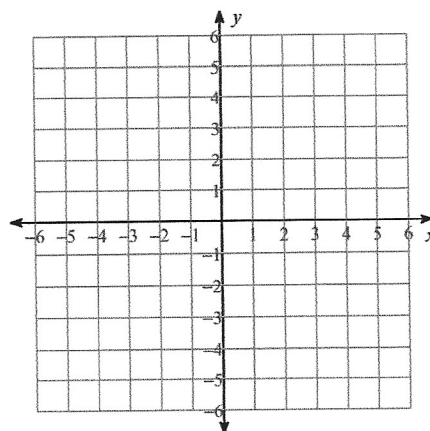
4) $7x + 3y = 9$



5) $x - y = 1$

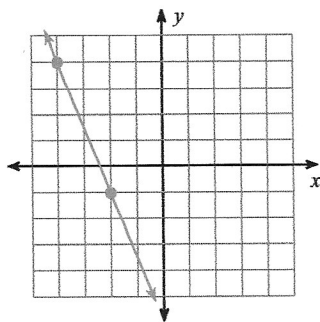


6) $x - 2y = 0$

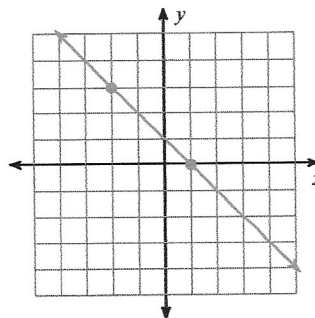


Find the slope of each line.

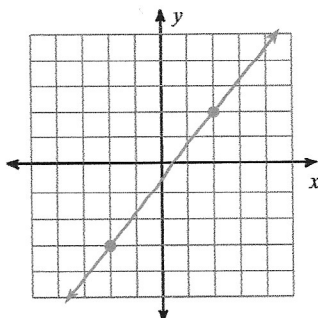
7)



8)



9)

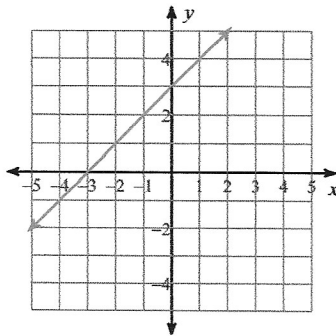


Page 2 Writing Linear Equations

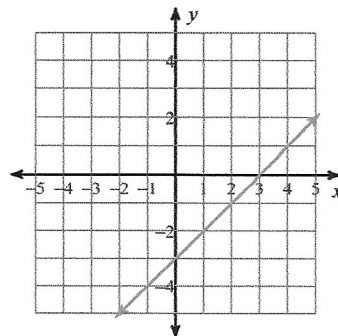
Date _____

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

1)



2)

**Write the slope-intercept form of the equation of each line given the slope and y-intercept.**

3) Slope = 0, y-intercept = 5

4) Slope = 4, y-intercept = 1

Write the slope-intercept form of the equation of each line.5) $x - y = -6$ 6) $3x - 8y = -8$ **Write the slope-intercept form of the equation of the line through the given point with the given slope.**7) through: $(-3, -2)$, slope = $\frac{4}{3}$ 8) through: $(-1, -2)$, slope = -2 **Write the slope-intercept form of the equation of the line through the given points.**9) through: $(1, 5)$ and $(-4, -2)$ 10) through: $(-2, 0)$ and $(-3, 5)$

Page 3 Factoring

Date _____

Factor the common factor out of each expression.

1) $-7b^3 + 9b^5 - 10b^6$

2) $-24x^{17} + 27x^{14} + 9x^{13}$

3) $5v^3 - 5v + 15$

Factor each completely.

4) $x^2 + x - 2$

5) $n^2 + 14n + 48$

6) $35x^2 + 40x$

7) $30v^2 - 114v + 72$

8) $3b^2 - 2b - 21$

9) $12n^2 + 40n - 120$

10) $5x^2 - 8x - 21$

11) $16x^2 - 40x + 25$

12) $9x^2 - 16$

Page 4 Simplify Radicals/Multistep Equations

Date _____

Simplify.

1) $\sqrt{16}$

2) $\sqrt{12}$

3) $\sqrt{125}$

4) $\sqrt{80}$

5) $\sqrt{32}$

6) $\sqrt{100}$

Solve each equation.

7) $-2x + 10 = -6(x - 5)$

8) $-4 - v = 4(8v - 1)$

9) $-5(p + 5) = -25 - 5p$

10) $7 + 4(8x - 3) = -5 + 6x$

11) $-11 + 4(r + 8) = -2(-9 - 2r)$

12) $\frac{2}{3}\left(n + \frac{1}{2}\right) - \frac{3}{2} = -\frac{7}{6} + \frac{2}{3}n$

13) $2\left(\frac{3}{2}n + 1\right) = 7 - \frac{1}{3}n$

14) $-\frac{3}{2}\left(x + \frac{3}{2}\right) = -\frac{19}{4} + x$