



## Geometry Summer Review

(for students who have **completed** Algebra 1 and are **entering** Geometry)

Reviewing key concepts from Algebra 1 is an excellent way to be fully prepared for learning new concepts in Geometry that require algebra skills to solve. The following packet will help you practice and also self-assess any concepts that you may want to spend extra time on before the start of school. You will take a low-stakes diagnostic quiz on this material to identify any gaps in critical concepts. You will be given additional assignments to help you learn the material until you can demonstrate mastery.

A breakdown of the skills covered in the packet by item number is as follows:

#1-6 Finding slopes: from a graph, given two points, using parallel and perpendicular lines

#7-12 Solving equations

#13-14 Evaluating fractional expressions (finding a common denominator)

#15-20 Factoring expressions

#21-24 Solving proportions

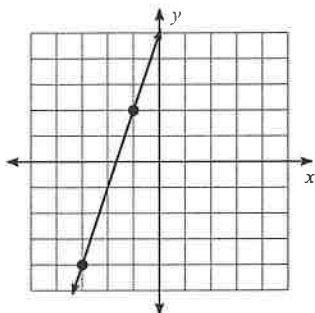
#25-28 Simplifying radical expressions

If you would like additional resources to support your practice, we recommend Khan Academy as a great first step. For in-person support, consider a peer tutor or a more structured option such as Mathnasium. For a list of peer tutors who are willing to tutor over the summer for community service hours, please contact Linda Graham, Math Department Chair.

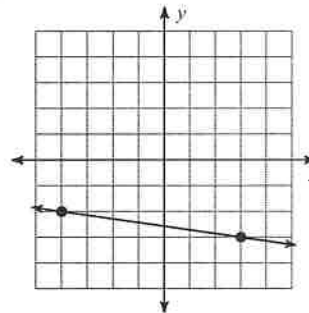
Pre-Class Check

Find the slope of each line.

1)



2)



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

3)  $(14, -11), (-10, 5)$

Find the slope of a line parallel to each given line.

4)  $y = -4x + 1$

Find the slope of a line perpendicular to each given line.

5)  $y = -2x - 5$

6)  $y = \frac{7}{2}x - 5$

Solve each equation.

7)  $3 = 5 + \frac{v}{2}$

8)  $-25 = 5 - 3v$

9)  $188 = -4(7n - 5)$

10)  $353 = 5v + 8(7v + 6)$

11)  $-\frac{4}{3}m + \frac{1}{2} = \frac{5}{6}$

12)  $\frac{1}{2}m + \frac{1}{3} = -\frac{11}{12}$

**Evaluate each expression.**

13)  $\frac{3}{2} + \left(-2\frac{1}{6}\right)$

14)  $1 - \frac{1}{6}$

**Factor the common factor out of each expression.**

15)  $-10n^3 + 5n$

16)  $30m^8 + 50m^7 + 60m^4$

**Factor each completely.**

17)  $b^2 + b - 20$

18)  $x^2 + 14x + 48$

19)  $3n^2 + 5n - 12$

20)  $5n^2 - 18n - 8$

**Solve each proportion.**

21)  $\frac{9}{2p} = \frac{2}{6}$

22)  $\frac{n}{8} = \frac{9}{6}$

23)  $\frac{6}{7} = \frac{10}{b+5}$

24)  $\frac{3}{8} = \frac{5}{k+2}$

**Simplify.**

25)  $\sqrt{256}$

26)  $\sqrt{200}$

27)  $-7\sqrt{96}$

28)  $-4\sqrt{32}$

## Answers to Pre-Class Check

1) 3

2)  $-\frac{1}{7}$

3)  $-\frac{2}{3}$

4) -4

5)  $\frac{1}{2}$

6)  $-\frac{2}{7}$

7)  $\{-4\}$

8)  $\{10\}$

9)  $\{-6\}$

10)  $\{5\}$

11)  $\left\{-\frac{1}{4}\right\}$

12)  $\left\{-\frac{5}{2}\right\}$

13)  $-\frac{2}{3}$

14)  $\frac{5}{6}$

15)  $5n(-2n^2 + 1)$

16)  $10m^4(3m^4 + 5m^3 + 6)$

17)  $(b - 4)(b + 5)$

18)  $(x + 8)(x + 6)$

19)  $(3n - 4)(n + 3)$

20)  $(5n + 2)(n - 4)$

21)  $\left\{\frac{27}{2}\right\}$

22)  $\{12\}$

23)  $\left\{\frac{20}{3}\right\}$

24)  $\left\{\frac{34}{3}\right\}$

25) 16

26)  $10\sqrt{2}$

27)  $-28\sqrt{6}$

28)  $-16\sqrt{2}$