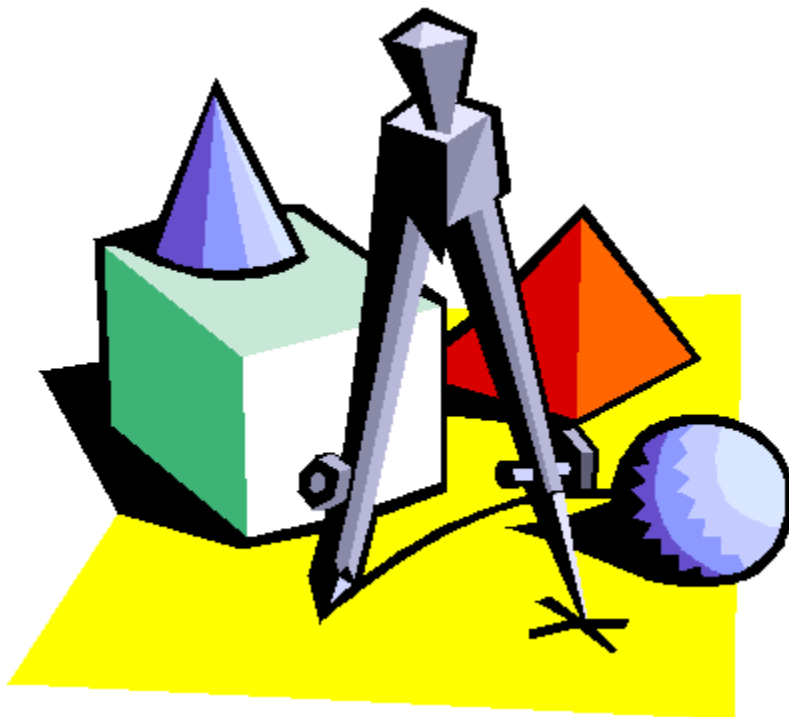


Summer Math Packet Key



For Students Entering Honors Geometry

Geometry Summer Mathematics Packet Answer Key

Answers to Fraction Operations [Pg. 1]

1. $32/21$ 2. $59/36$ 3. $23/55$ 4. $10/63$ 5. $4/11$ 6. $7/15$ 7. $30/7$
8. $35/33$ 9. $9 \frac{1}{10}$ 10. $15 \frac{44}{175}$ 11. $16 \frac{4}{9}$ 12. $137/90$ 13. $413/60$ 14. 19
15. $1040/21$ 16. $68/3$ 17. $171/4$ 18. $119/20$ 19. $77/93$ 20. $33/100$ 21. $31/42$

Answers to Order of Operations [Pg. 2]

1. 52 2. 5 3. 42 4. 72 5. 0
6. 2 7. 56 8. 0 9. 2 10. 110
11. 14 12. 384

Answers to Proportions [Pg. 3]

1. $x = 20$ 2. $y = 5$ 3. $x = 18$ 4. $n = 15$ 5. $a = 9.3$
6. $n = 3.9$ 7. $n = 2.28$ 8. $n = 0.84$
9. 14 days 10. 1.5 hours 11. 3 inches

Answers to Squares, Square Roots, and Laws of Exp. [Pg. 4]

1. 16 2. -108 3. 125 4. 3 5. 75 6. 4 7. 5^6
8. 12^{12} 9. 5^5 10. 10^8 11. $\frac{1}{7^3}$ 12. $\frac{1}{3^4}$ 13. 3^{15} 14. 1

Geometry Summer Mathematics Packet Answer Key

Answers to Simplifying Radicals [Pg. 5]

- $\frac{\sqrt{15}}{9}$
- $7\sqrt{6}$
- $14\sqrt{3}$
- $4 + 2\sqrt{10}$
- $3\sqrt{7}$
- $\frac{3\sqrt{3}}{7}$
- 0
- $12\sqrt{6}$
- $6\sqrt{2}$
- 75
- $13\sqrt{2}$
- 45
- Nina - can demonstrate through calculator.

Answers to Solving Equations I [Pg. 6]

- $t = -32$
- $m = 10$
- $r = 3.7$
- $x = -39$
- $g = -1.5$
- $y = -24$
- $x = 60$
- $t = 28\frac{2}{3}$
- $t = -384$
- $t = -7.5$
- $r = 19$
- $x = 11\frac{1}{3}$
- A paragraph that describes how to solve any two step equation is the expectation.

Answers to Solving Equations II [Pg. 7]

- $r = 23$
- $t = 11$
- $x = 1\frac{1}{3}$
- No Solution
- $x = 1.4$
- $p = 1\frac{3}{13}$
- D
- Option One is $40 \cdot 12 = \$480$, while Option Two is $400 + (400)(0.15)(1) = \$460$.
Option Two would cost Ted less money.

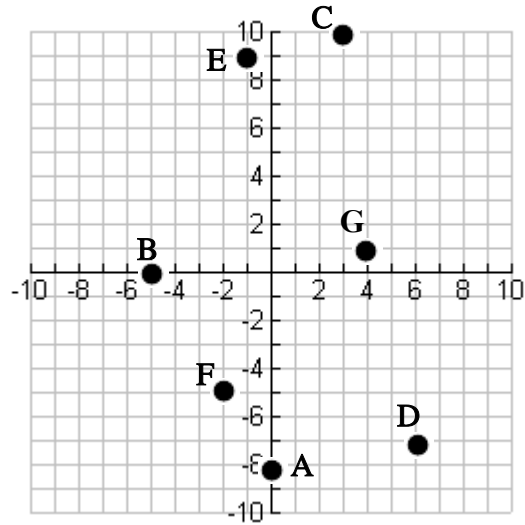
Answers to Inequalities [Pg. 8]

- $x > 2\frac{1}{4}$: number line should have open circle at $2\frac{1}{4}$ and extend to the right (positive values)
- $t \leq 3$: number line should have closed circle at 3 and line extends to the left (into negative values)
- $x \geq 6$: number line should have a closed circle at 6 and extend to the right.
- $x < -8$: number line should have an open circle at -8 and extend to the left

Graphing and Slope [Pg. 9]

Plot the following points on the coordinate grid.

1. A (0, -8)
2. B (-5, 0)
3. C (3, 10)
4. D (6, -7)
5. E (-1, 9)
6. F (-2, -5)
7. G (4, 1)



Write the slope of the line passing through the two points.

8. (-1, 7) & (1, 5)

slope = -1

9. (2, 2) & (6, 8)

slope = 3/2

10. (-34, -41) & (-26, 42)

slope = 83/8

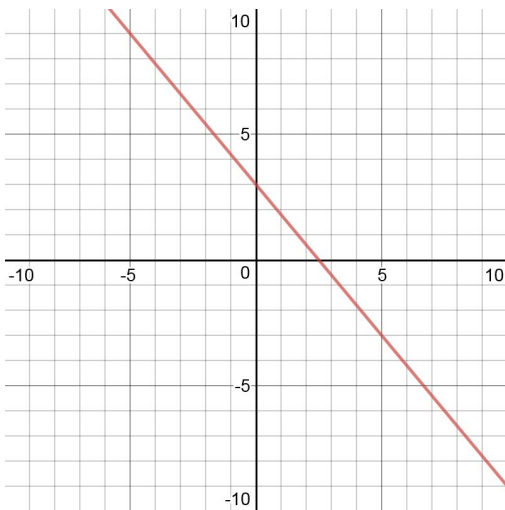
Graph each line.

11. (-7, 8) & (-4, -3)

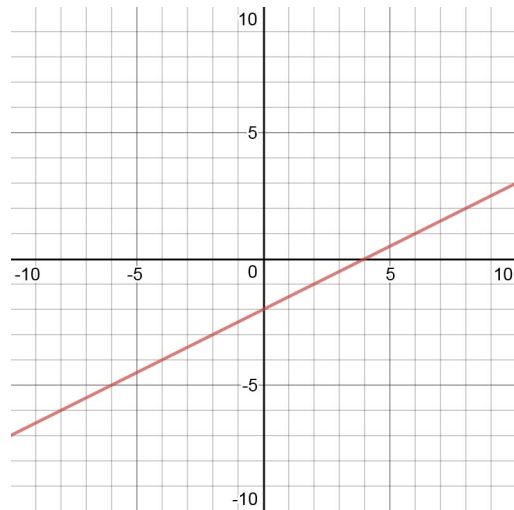
slope = -11/3

12. A line that passes through the point (0, 3). The line is parallel to another line

whose slope is $\frac{-6}{5}$.



13. A line passes through the point (4, 0). Slope = $\frac{1}{2}$

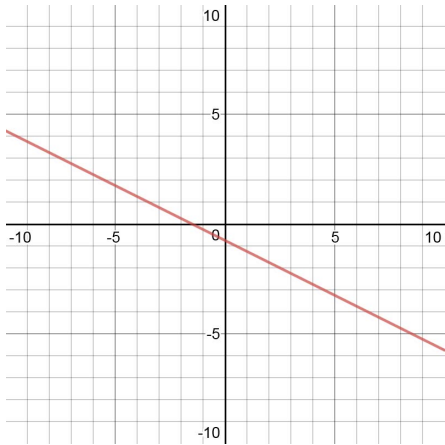


Graphing Linear Equations and Inequalities

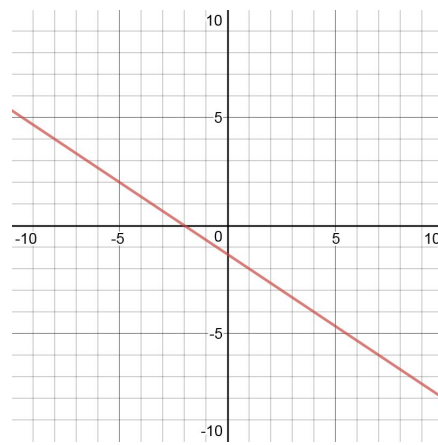
Hints/Guide:

Solve each equation for y . Then use the slope and y -intercept to graph.

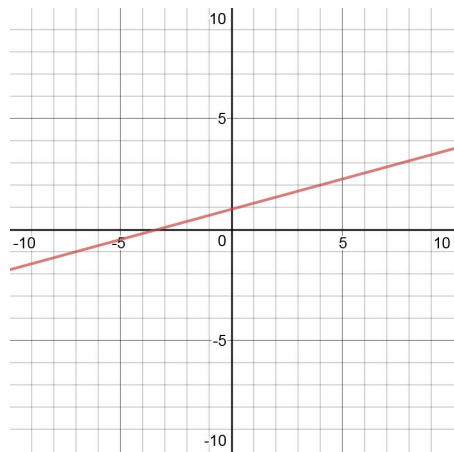
1. $2x + 4y = -3$



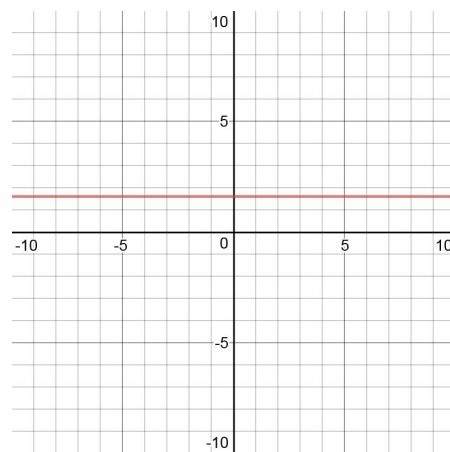
2. $-6y = 8 + 4x$



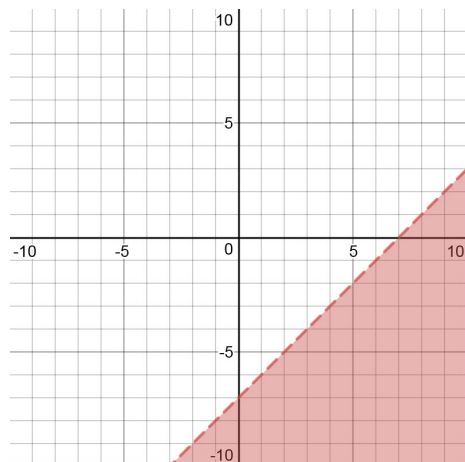
3. $y = \frac{3}{11}x + \frac{10}{11}$



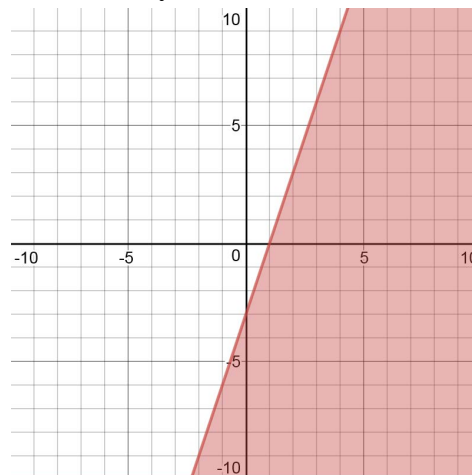
4. $5y = 8$



5. $x - y > 7$



6. $3x - y \geq 3$



Summer Mathematics Packet
for students entering Geometry/Honors Geometry

Answers to Factoring Quadratic Equations [Pg. 11]

- | | | |
|-------------------------------------|-----------------------------------|--------------------------|
| 1. $a = -6$ or $a = 5$ | 2. $b = -4$ or $b = -3$ | 3. $m = 4$ or $m = 10$ |
| 4. $s = -15$ or $s = 12$ | 5. $a = -3$ or $a = -\frac{1}{7}$ | 6. $x = -1.5$ or $x = 4$ |
| 7. $n = -2.5$ or $n = 3.5$ | 8. $y = 4$ or $y = 9$ | |
| 9. $m = -2.5$ or $m = -\frac{2}{3}$ | 10. $x = -3$ or $x = 5$ | |
| 11. $x = -1.5$ or $x = 1$ | 12. $x = -\frac{2}{3}$ or $x = 2$ | |

Answers to Solving Systems of Equations [Pg. 12]

- | | | | |
|---|------------|------------|-------------|
| 1. (5, 3) | 2. (-1, 7) | 3. (6, -1) | 4. (-5, -1) |
| 5. \$12.00 for each CD and \$8.00 for each cassette | | | |
| 6. There will be 5 essay questions on the test. | | | |

Answers to Venn Diagrams [Pg. 13]

- | | | |
|------------------------|-------------------------------|----------------------|
| 1. 8 people | 2. 2 fans cheered for neither | |
| 3. a. 18 sixth graders | b. 143 sixth graders | c. 144 sixth graders |

Answers to Probability [Pg. 14]

- | | | | | | |
|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1. 1 out of 12 | 2. 1 out of 20 | | | | |
| 3. a. $\frac{1}{11}$ | b. $\frac{1}{11}$ | c. $\frac{2}{11}$ | d. $\frac{1}{11}$ | e. $\frac{2}{11}$ | f. $\frac{1}{11}$ |
| 4. a. $\frac{1}{26}$ | b. $\frac{1}{2}$ | c. $\frac{1}{52}$ | d. $\frac{4}{13}$ | | |

**Summer Mathematics Packet
for students entering Geometry/Honors Geometry**

Answers to Pythagorean Theorem [Pg. 15]

- | | | | |
|--------------|------------------|-------------------|----------------|
| 1. $x = 4$ m | 2. About 5.66 ft | 3. $x = 15$ cm | 4. $x = 13$ ft |
| 5. 25 in | 6. About 14.14 m | 7. About 47.37 ft | |

Answers to Distance and Midpoint Formulas [Pg. 16]

- | | | | |
|---------------|-----------------------------|-----------------------------|------------------------------|
| 1. a. 14 | b. $\sqrt{89} \approx 9.43$ | c. $\sqrt{68} \approx 8.25$ | d. $\sqrt{185} \approx 13.6$ |
| 2. a. (-1, 7) | b. (-0.5, -2) | c. (-2, -5) | d. (4, 0.5) |

Answers to Irregular Areas [Pg. 17]

- | | | | |
|-----------------------|--------------------|----------------|---------------|
| 1. 23 square inches | | | |
| 2. a. 353.04 square m | b. 45.76 square ft | c. 92 square m | d. 9.12 sq cm |

Problem Solving [Pg. 18]

1. Brandon's back yard is in the shape of a rectangle. The length is 50 feet and the width is 30 feet. What is the perimeter? What is the area? If you put up a fence and each section is 8 feet long, how many sections would you need and how many posts?

P = 160 ft A = 1500 ft² 20 sections 20 posts

2. Tim is putting in a circular garden in front of his house. He needs to put a low fence around it. He also needs to get mulch. If the circle has a diameter of 12 feet, how much fencing would he need? It comes in rolls of 10 feet. How many rolls will he need? Each bag of mulch covers 3 square feet. How many bags of mulch does he need?

C = 38 ft 4 rolls 38 bags

3. Syreeta is having a party. She needs to buy ice cream. She knows that each person needs 2 scoops. The ice cream package is in the shape of a rectangular prism. The length is 12 inches, the height is 5 inches, and the width is 8 inches. What is the volume? If each scoop is around 12 cubic inches, how many scoops can I get out of a package?

V = 480 in³ 40 scoops

4. Courtney is making 72 cookies. She will make rectangles and cut them into triangles. Each rectangle will be 2 inches by 4 inches. What is the area of each cookie? If she wants to put icing on them, how many cans will she need if each can will cover 48 square inches?

A = 8 in² 6 cans

5. Terry is selling plants from her garden. Buy 3/\$4.50 and get one free. Mrs. Greenthumb wants 20 plants; how much will she pay? How many plants would you get for \$27?

\$22.50 \$27 = 24 plants

6. Heather and Holly were eating their lunch. First, 18 seagulls swooped down but 11 flew away. Then 12 more came and 2 flew away. Finally, 14 came to visit and 8 of those stayed. At this point, how many gulls were still on the beach?

25 gulls

7. Tim and his dad build a sandcastle. They start at 10:30AM and build for 2 hours and 15 minutes. What time are they finished? High tide comes in at 3:35 and washes their castle away. How long was the completed castle standing? Give the time in hours and minutes.

12:45 pm 2hr 50 min.

8. Umbrellas rent for \$3 a day. The Jacksons will be at the shore for 2 weeks. Should they buy an umbrella for \$34.95 or rent one everyday? Justify your answer.

\$42.00 to rent vs. \$34.95 to buy