Name _____

Students Entering Geometry, Summer Packet

When you go into geometry, we assume you have certain mathematical skills that were taught to you in previous years. If you do not have these skills, you will find that you will consistently get problems incorrectly next year, even though you understand the geometry concepts. It is frustrating for students when they are tripped up by the algebra or arithmetic and not the geometry. This summer packet is intended for you to brush up and possibly relearn these topics.
Answer all questions without a calculator!!

Spread out your work during the whole summer, since you need these skills to be relatively fresh in your mind in the fall. Also, don't fake your way through these problems; instead, visit the websites suggested below. The whole packet will take you about 10 hours to complete.
We expect you to try hard at reviewing this material, to look things up, watch video lessons, and then complete this practice.
Answers will be shared on the first and second day of school. On those days you will have a chance to ask questions, complete some of the problems, and then hand it in [you may attach extra paper to show your work].

The following are online resources that may be helpful for your work on the packet.

http://www.khanacademy.com

http://www.purplemath.com/modules/index.htm

http://www.hippocampus.org/?select-textbook=19

http://tutorial.math.lamar.edu/Classes/Alg/Alg.aspx

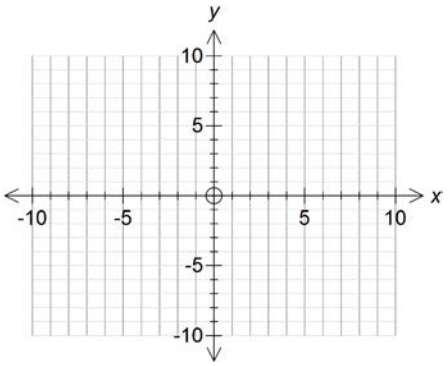
This practice is divided into four sections:

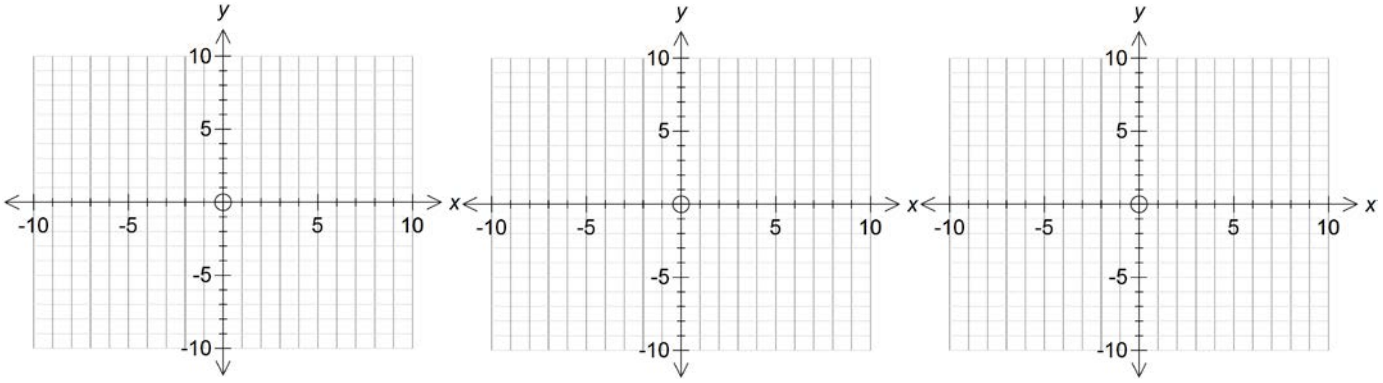
1. Graphs
2. Measurement
3. Basic Algebra
4. Pythagorean Theorem

It is crucial that you do not use a calculator for any of these questions.

Graph the following geometric figures.

1. A square with vertices W(-3,3), X(-3,-1), Y(1,3) and Z(1,-1).
2. A polygon with vertices J(4,2), K(1,-1), L(-2,2), and M(1,5).
3. A triangle with vertices F(2,4), G(-3,2), and H(-1,-3).
4. A rectangle with vertices P(-2,-1), Q(4,-1), R(-2,1), and S(4,1)



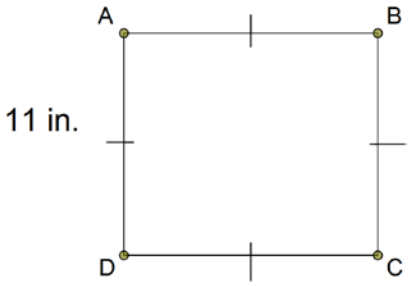


Perform the following conversions.

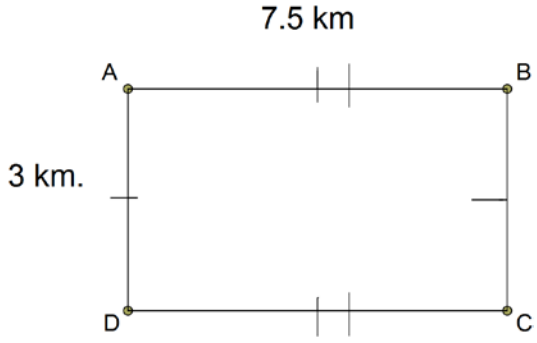
5. 18 ft. =_____ yds.
6. 180 mm. = _____ m.
7. 5280 yd. = _____ mi.
8. 370 mL = _____ L
9. 5 qt. = _____ c.
10. 4 gal. = _____ qt.
11. 130 g. = _____ kg.

Find the perimeter and area of each figure.

12.



13.



14. A rectangle with length 7 meters and width 11 meters.
15. A square with length 4.5 inches.

Evaluate each expression if $a = 2$, $b = -3$, $c = -1$, and $d = 4$

16. $2a + c$ 17. $\frac{bd}{2c}$ 18. $\frac{3b}{5a + c}$ 19. $5bc$

Evaluate each expression if $x = 2$, $y = -3$, and $z = 1$

20. $24 + |x - 4|$ 21. $13 + |8 + y|$ 22. $|y| - 7$

Find each sum or difference.

23. $-4 - 5$ 24. $3 - 5$ 25. $-3 + 1$ 26. $-4 - (-2)$

Evaluate each expression.

27. $|-4| - |6|$ 28. $|-5 + 2|$

Find each product or quotient.

29. $-36 \div 9$ 30. $-6(-3)$ 31. $44 \div (-4)$ 32. $-10(4)$

Solve each equation.

33. $r + 11 = 3$ 34. $\frac{8}{5}a = -6$ 35. $\frac{12}{5}f = -18$ 36. $c - 14 = -11$

37. $b + 2 = -5$ 38. $5s = 30$ 39. $\frac{m}{10} + 15 = 21$ 40. $9n + 4 = 5n + 18$

41. $-2y + 17 = -13$ 42. $9 - 4g = -15$ 43. $-2(n + 7) = 15$ 44. $\frac{7}{4}q - 2 = -5$

Find each product.

45. $(3q^2)(q^5)$

46. $\left(\frac{9}{2}c\right)(8c^5)$

47. $(fg^8)(15f^2g)$

48. $-2q^2(q^2+3)$

49. $4m^2(-2m^2+7m-5)$

50. $(3m^3n^2)^2$

51. $(-5wx^5)^3$

52. $(x^2y)^3(13k^2)^2$

53. $(m-1)(m-4)$

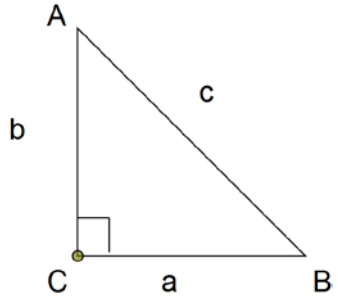
54. $(5d+3)(d-4)$

55. $(2q+3)(5q+2)$

56. $(x-2)^2$

57. $(3b-2)(3b^2+b+1)$

Use the triangle below. Find the length of the missing side.



58. $a = 6$, $b = 8$

59. $a = 8$, $b = 15$

60. $a = 1.5$, $b = 2$

61. $a = 3$, $c = 5$

62. $a = 9$, $c = 15$

63. $a = 5$, $c = 9$