Trigonometry Pre-Class Packet

Name_____Period_____

Bring this completed assignment with you on the first day of class. You must clearly label, copy and complete each problem on another piece of paper and attach it to this. You must show all work to receive credit for the assignment.

Simplify. (All exponents must be positive.)

1. $(x-3)^2$
2. $(2x+3)(x+6)^2$
3. $4x(2x^2-6x)$
4. $(2x^{-2}y^4z^0)^3$
5. $\frac{(2a^4)(3a^2)}{6a^3}$
6. $\frac{2x^2}{14x^2}$

Evaluate each expression for a = - 4, b = 5

7. $7(a+4)+3b$
8. a^2-12b
9. b^3-a
10. $\frac{a}{2}-2(a+b)$

<u>Completely</u> factor each expression.

11. $2x^3-6x$
12. $4x^2-8x-12$
13. $4x^2-12x+9$
14. $2x^2+11x+12$
15. $4x^2-x-3$
16. $2x^3-x^2-6x+3$
17. $5x^2+26x+5$
18. $6x^2-54$

Solve for the zeros using factoring.

19. $x^2+6x-16=0$
20. $2x^2-9x+7=0$
21. $4x^2-9=0$

Solve for the zeros using the quadratic formula.

22. $2x^2+6x+7=0$
23. $0=3x-2x^2+2$
24. $x^2-4x+20=0$

Completely simplify each expression.

25. $\sqrt{108}$ 26. $4\sqrt{45}$ 27. $3\sqrt{12} + 3\sqrt{27}$ 28. $2\sqrt{50} - 12\sqrt{8}$

Rationalize the denominator and simplify the answer. No decimal answers.

29. $\frac{1}{\sqrt{3}}$ 30. $\frac{2}{\sqrt{2}}$ 31. $\frac{2}{2+\sqrt{3}}$ 32. $\frac{5+\sqrt{2}}{2-\sqrt{2}}$

Simplify each expression and state any restrictions to the variable.

33. $\frac{\frac{2}{3}}{\frac{4}{9}}$ 34. $\frac{2}{3} + \frac{3}{4}$ 35. $\frac{x+1}{x+2} + \frac{x-2}{x-1}$ 36. $\frac{2}{x+2} - \frac{6}{x-2}$

Solve for x

37. $\frac{x+3}{2x} = \frac{5}{8}$ 38. $\frac{4}{x} = \frac{15}{16}$ 39. $\frac{2x-4}{6} = \frac{x-2}{2}$ 40. $\frac{1}{2} = \frac{x+1}{10}$

For each set of ordered pairs, find the slope and the distance and simplify all answers

41. (1,4) and (8,4) 42. (-2,3) and (4,-7) 43. (2, 5) and (3,6)

44. (-2,-5) and (-2, 9)

Describe the transformations applied to $y = x^2$ for the following functions

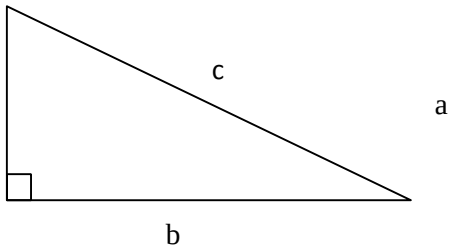
45. $y = 2x^2$ 46. $y = -x^2$ 47. $y = (x-1)^2$

48. $y = x^2 - 3$ 49. $y = \frac{1}{3}(x-2)^2 + 1$

Find the area and the circumference for the following circles. Give both the exact and approximate answer to the nearest tenth.

50. Radius = 1 cm 51. Diameter = 4 inches 52. Radius = 2.5 mm

Using the Pythagorean Theorem, find the missing side.

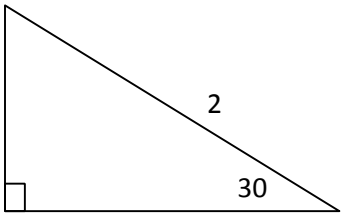


53. a = 7and b = 24 54. b = 11 and c = 13 55. a= 54 and c =100

56. a= 30 and b = 16

Find all the sides and angles of the following triangles:

57.



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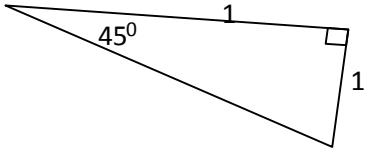

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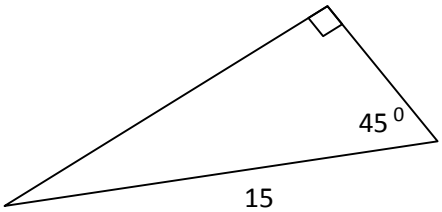

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