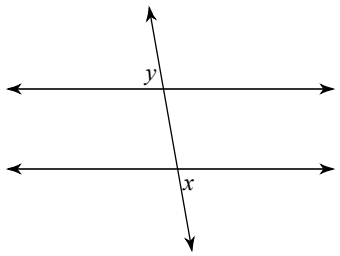
Entering Algebra 2 Name _____

Summer Math

Identify each pair of angles as corresponding, alternate interior, alternate exterior, consecutive interior, vertical, or adjacent.

1)



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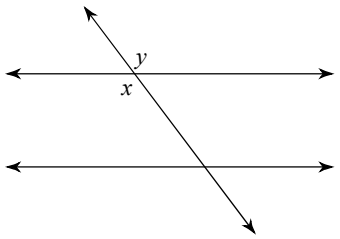

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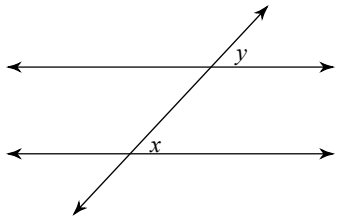

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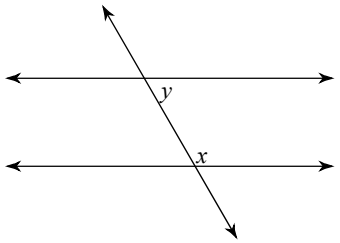
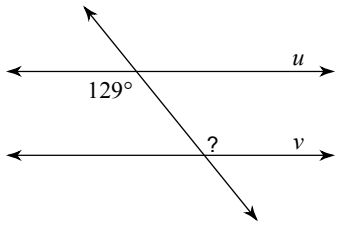


Find the measure of the indicated angle that makes lines u and v parallel.

5)



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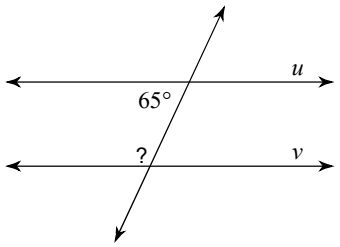
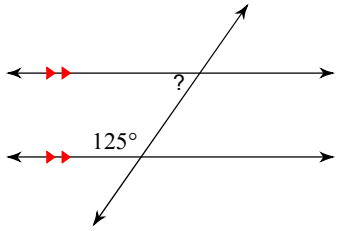


Find the measure of each angle indicated.

7)



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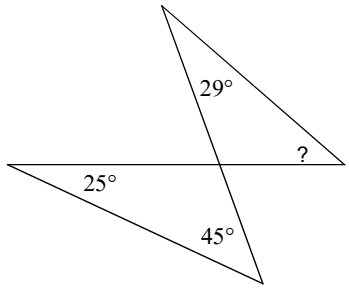

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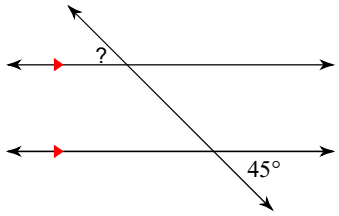

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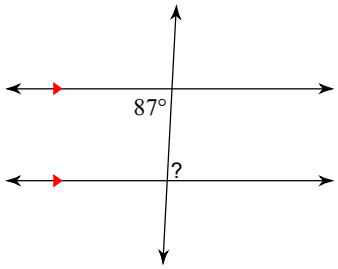

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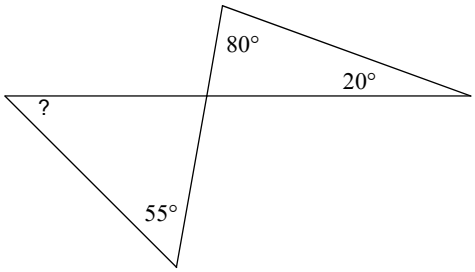

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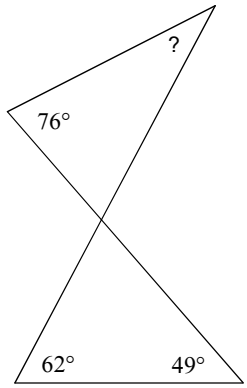
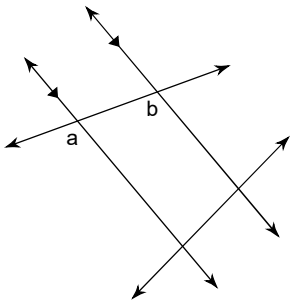


Name the relationship: complementary, linear pair, alternate interior, corresponding, alternate exterior, or consecutive interior.

13)



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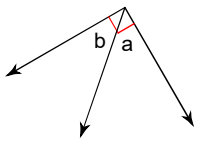

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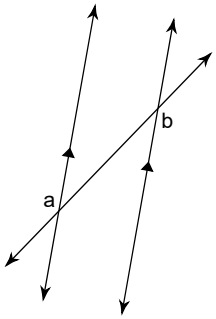

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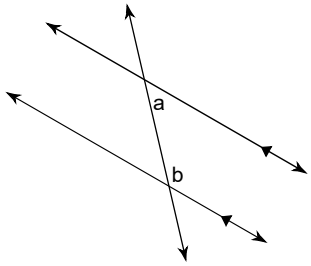
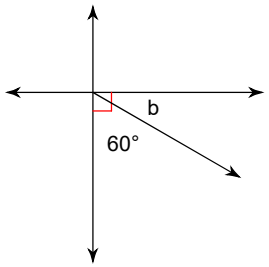


Find the measure of angle b.

17)



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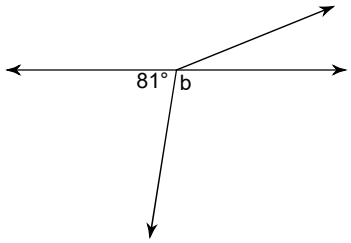
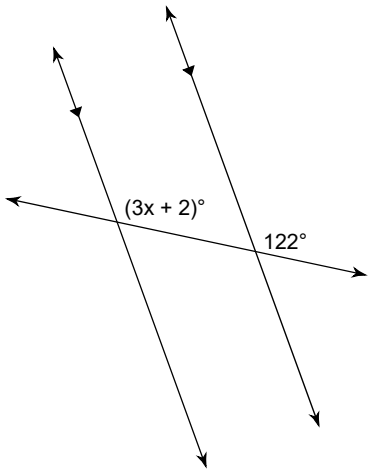


Find the value of x.

19)



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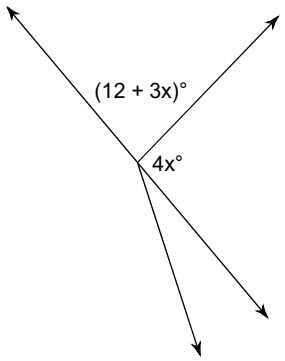
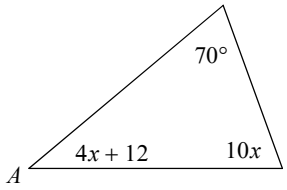


Find the measure of angle A.

21)



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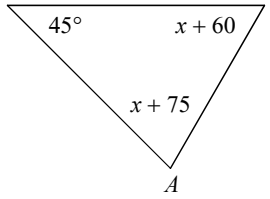
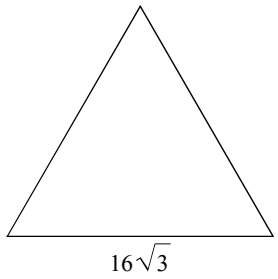


Find the area of each regular polygon. Round your answer to the nearest tenth if necessary.

23)



Solve each proportion.

24) $\frac{n-7}{n+10} = \frac{10}{9}$

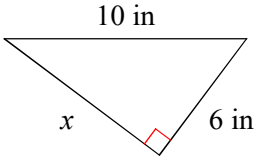
25) $\frac{9}{2} = \frac{m+10}{3}$

26) $\frac{6}{p-5} = \frac{7}{6}$

27) $\frac{v-4}{v-6} = \frac{8}{7}$

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

28)



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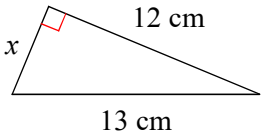
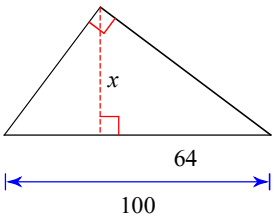


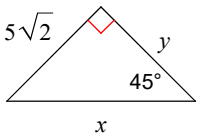
Find the missing length indicated. Leave your answer in simplest radical form.

30)



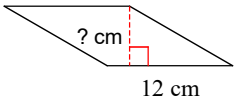
Find the missing side lengths. Leave your answers as radicals in simplest form.

31)



Find the missing measurement. Round your answer to the nearest tenth.

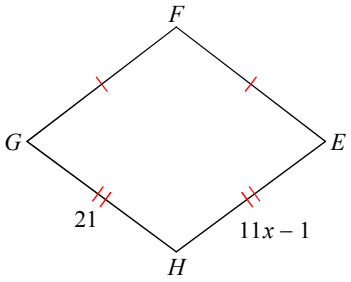
32)



Area = 68.4 cm²

Solve for *x*.

33)



Solve each equation.

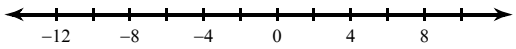
34) $|r + 8| = 4$

35) $|8 - 9b| + 8 = 106$

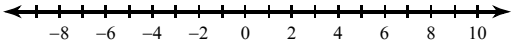
36) $|6 - x| - 7 = 0$

Solve each inequality and graph its solution.

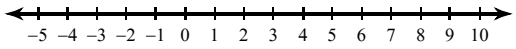
37) $-8 + |6n| > 40$



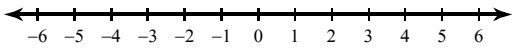
38) $-8\left|\frac{k}{4}\right| < -10$



39) $|v - 3| - 9 \geq -5$



40) $-9|x + 2| > -18$



Simplify each expression.

41) $-6x + 2(1 - 5x)$

42) $2(6p - 10) - 4$

43) $-4(-9 + 2n) + 5(4n - 8)$

44) $6(3 + 10n) - (-n - 8)$

45) $(3b^2 + 3 + 2b^3) + (6b^2 + 8 - b)$

46) $(k - 2k^2 + 3) - (2k + 5k^2 - 5)$

Simplify. Write each answer in scientific notation.

47) $(3 \times 10^{-1})(4.9 \times 10^{-5})$

48) $\frac{3.8 \times 10^{-4}}{4.7 \times 10^{-3}}$

Each table represents a relation. Determine the domain/range and if the relation is a function.

49)

x	y
–3	–5
1	1
2	6
4	3
6	–3

50)

x	y
–7	0
–4	1
3	0
4	–5
7	1

Each set of ordered pairs represents a relation. Determine the domain/range and if the relation is a function.

51) {(–6, 3), (–3, –5), (5, –1), (6, –5), (7, –6)}

52) {(–5, –2), (–5, 3), (–4, 3), (5, –6), (7, –3)}

Solve each equation for the indicated variable.

53) $z = b + m - a$, for a

54) $z = \frac{ab}{m}$, for a

Find each product.

55) $(5n - 6)^2$

56) $(5x^2 + 5x - 1)(x - 1)$

57) $(n^2 + n - 1)(6n - 4)$

58) $(6x^2 - 8x - 6)(8x^2 + 7x + 3)$

Factor the common factor out of each expression.

59) $64ba^4 + 16b^4a + 40b^2$

60) $-49mn^8 + 42m^3n^6 + 70mn^5$

Solve each equation by factoring.

61) $a^2 - 49 = 0$

62) $n^2 + 7n - 15 = -7$

63) $v^2 = 49$

64) $-5x^2 - 6x - 16 = -6x^2$

Factor each completely.

65) $x^2 + 5x - 50$

66) $-k^2 - 3k + 28$

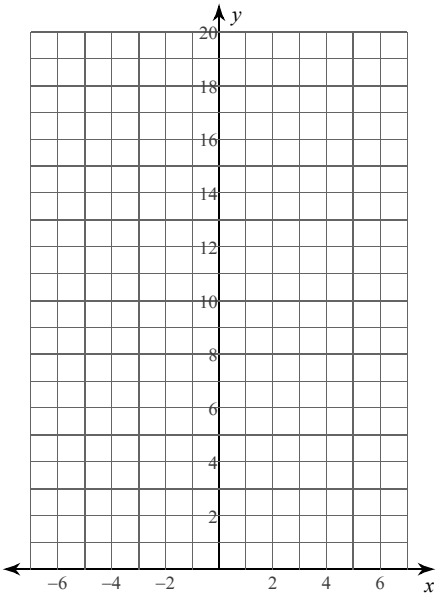
67) $9m^2 + 55m + 50$

68) $35xy - 49x^2 - 15y + 21x$

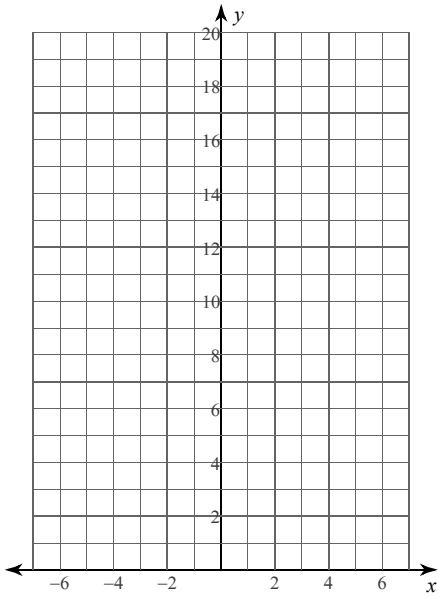
69) $15uv + 40u + 9v^3 + 24v^2$

Sketch the graph of each function.

70) $f(x) = 2 \cdot 2^x$



71) $f(x) = 5 \cdot \left(\frac{1}{2}\right)^x$



Simplify. Your answer should contain only positive exponents.

72) $x^{-1}y^{-4} \cdot 4x^0y^0$

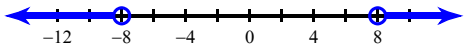
73) $4u^4v^{-1} \cdot u^3$

74) $\left(x^0 \cdot x\right)^4$

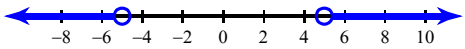
75) $\dfrac{4yx^2 \cdot x^4}{3x^2y^{-3}}$

Answers to Summer Math

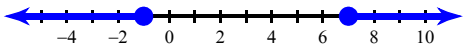
1) alternate exterior
2) vertical
3) corresponding
4) consecutive interior
5) 129°
6) 115°
7) 55°
8) 41°
9) 45°
10) 87°
11) 45°
12) 35°
13) corresponding
14) complementary
15) alternate exterior
16) consecutive interior
17) 30°
18) 99°
19) 40
20) 24
21) 40°
22) 75°
23) 332.6
24) $\{-163\}$
25) $\{3.5\}$
26) $\{10.14\}$
27) $\{20\}$
28) 8 in
29) 5 cm
30) 48
31) $x = 10,\ y = 5\sqrt{2}$
32) 5.7 cm
33) 2
34) $\{-4, -12\}$
35) $\left\{-10, \frac{106}{9}\right\}$
36) $\{-1, 13\}$
37) $n > 8$ or $n < -8$:



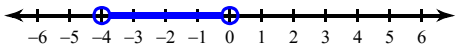
38) $k > 5$ or $k < -5$:



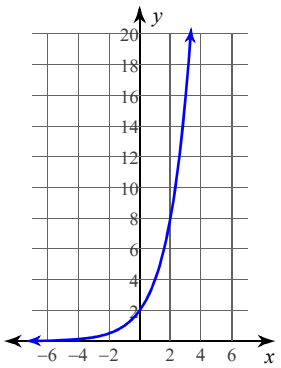
39) $v \geq 7$ or $v \leq -1$:



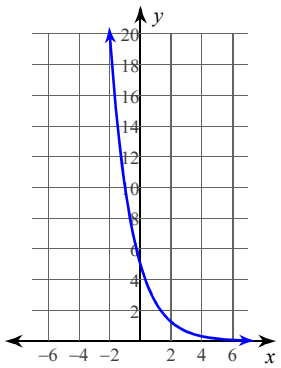
40) $-4 < x < 0$:



41) $-16x + 2$
42) $12p - 24$
43) $-4 + 12n$
44) $26 + 61n$
45) $2b^3 + 9b^2 - b + 11$
46) $-7k^2 - k + 8$
47) 1.47×10^{-5}
48) 8.085×10^{-2}
49) Domain: $\{-3, 1, 2, 4, 6\}$
Range: $\{-5, -3, 1, 3, 6\}$
The relation is a function.
50) Domain: $\{-7, -4, 3, 4, 7\}$
Range: $\{-5, 0, 1\}$
The relation is a function.
51) Domain: $\{-6, -3, 5, 6, 7\}$
Range: $\{-6, -5, -1, 3\}$
The relation is a function.
52) Domain: $\{-5, -4, 5, 7\}$
Range: $\{-6, -3, -2, 3\}$
The relation is not a function.
53) $a = -z + b + m$
54) $a = \frac{zm}{b}$
55) $25n^2 - 60n + 36$
56) $5x^3 - 6x + 1$
57) $6n^3 + 2n^2 - 10n + 4$
58) $48x^4 - 22x^3 - 86x^2 - 66x - 18$
59) $8b(8a^4 + 2ab^3 + 5b)$
60) $7mn^5(-7n^3 + 6m^2n + 10)$
61) $\{7, -7\}$
62) $\{1, -8\}$
63) $\{-7, 7\}$
64) $\{-2, 8\}$
65) $(x + 10)(x - 5)$
66) $-(k - 4)(k + 7)$
67) $(m + 5)(9m + 10)$
68) $(7x - 3)(5y - 7x)$
69) $(5u + 3v^2)(3v + 8)$
70)



71)



72) $\frac{4}{xy^4}$
73) $\frac{4u^7}{v}$
74) x^4
75) $\frac{4y^4x^4}{3}$