Grade 7

Part 2

Name _____ Date _____

Circle your final answer.

Fill in each blank with the correct symbol ($<$, $>$, or $=$).

1. $\frac{10}{13}$ ___ 0.8

2. $0.\overline{3}$ ___ 0.3

Order from smallest to largest.

3. $\frac{1}{5}$, 0.5, $\frac{3}{4}$, 1.65, 0.82

Find the prime factors.

4. 75

5. 100

6. 48

Simplify.

7. $(-8) + 17 + (-12)$

8. $27 + -9\frac{5}{8}$

9. $15 - 27$

10. $(-265) - (-464)$

11. $-26.31 - 280.2$

12. $\frac{11}{12} - \left(-\frac{19}{6}\right)$

13. $\left(-\frac{8}{7}\right)\left(-\frac{14}{11}\right)$

14. $(-3)(-3)(-3)(4)$

15. $\left(\frac{3}{10}\right)(-15)$

16. $\left(\frac{6}{11}\right)\left(-\frac{9}{10}\right)$

17. $-26.5 \div 5$

18. $\left(-\frac{7}{8}\right) \div \left(-\frac{15}{8}\right)$

19. $\dfrac{-1/6}{5/6}$

20. $6 \times 8 - 9 + 12 \div 3$

21. $17 - 2(-5)$

22. $-6.2 + 0.54 \div 0.9$

23. $\dfrac{2.1 + 3.3}{3.6 + 0.2 \times 12}$

Rewrite each as a ratio of whole numbers.

24. 12 hours to 1 day

25. 3 pounds for 45¢

Write each ratio in simplest form.

26. $\dfrac{36}{16}$

27. 42 to 24

28. $\dfrac{2/3}{8}$

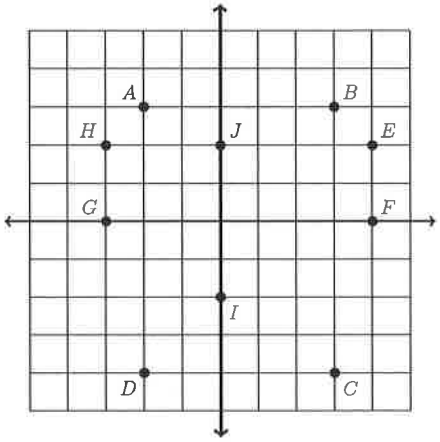
29. $96y : 36$

Solve each proportion.

30. $\dfrac{3}{15} = \dfrac{15}{x}$

31. $\dfrac{n}{9} = \dfrac{5}{12}$

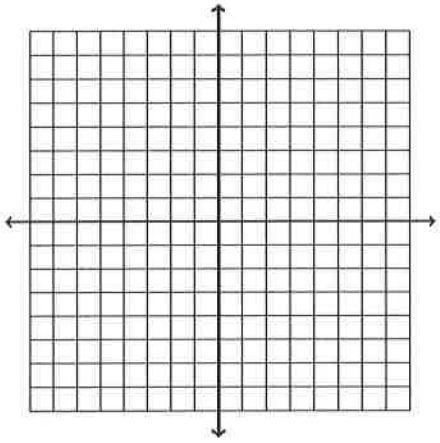
Use the diagram to answer the questions.



32. Name the quadrant containing point C.

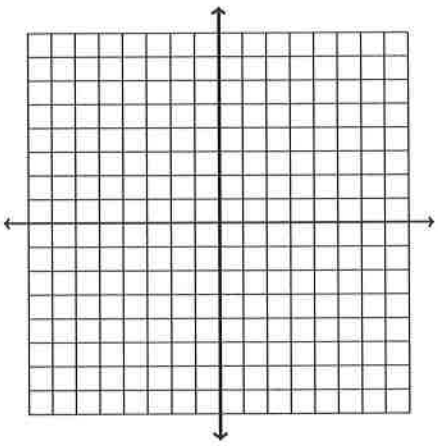
Plot the points.

33. $(3, 2),\ (6, -1),\ (-4, -1),\ (-1, 2),\ (3, 2)$

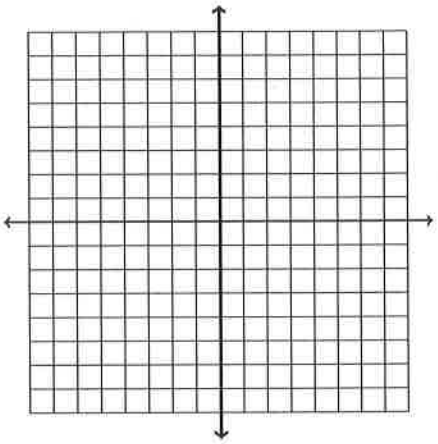


Graph.

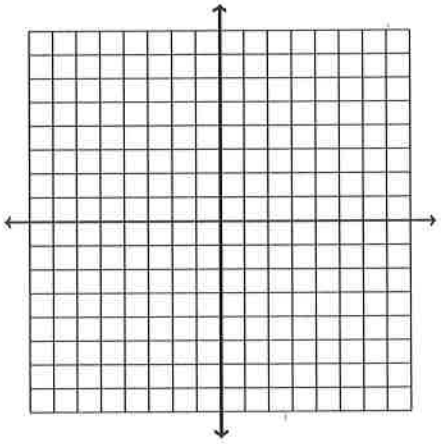
34. $y = -2x$



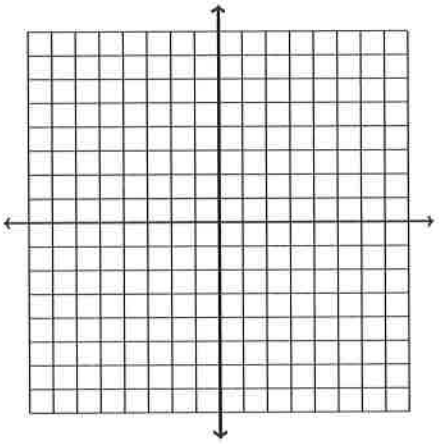
35. $y = \frac{1}{3}x$



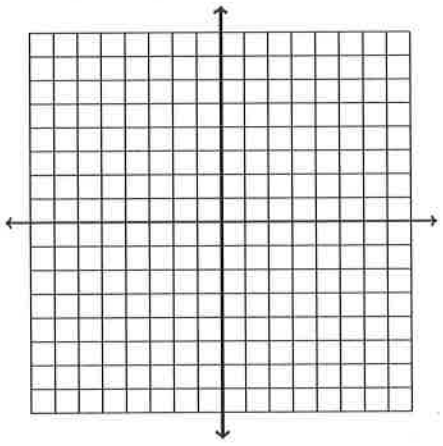
36. $y = 5x^2$



37. Draw a vertical line throught the point $(-6, 0)$.



38. Plot the points $(-3, -7)$ and $(6, -7)$. Label the midpoint.



Write as an algebraic expression.

39. a increased by 6

40. w less than 17

41. 22 divided by the product of c and d

42. Nineteen plus a squared

43. The value (in cents) of d dimes and n nickels.

44. twice a number n

45. the sum of 7 times a number and 1

46. the price of a TV that originally cost p dollars, after a 20% discount

Evaluate.

47. $s \cdot 2$ for $s = 3$

48. $3d$ for $d = 5.7$

49. $-s - 27$ for $s = -16$

50. $5.2 + n$ for $n = -7.5$

51. $8(5 - z)$ for $z = 2$

52. $\dfrac{d + 3.4}{5.1}$ for $d = 22.1$

53. $3 - s \div 6$ for $s = 24$

54. $2x + 3$ for $x = -5$

55. $1.9 - 6.4 \div n$ for $n = -4$

56. $-21 - 5x$ for $x = \frac{8}{9}$

57. $\frac{z}{s}$ for $z = 5$, $s = \frac{15}{17}$

58. $\frac{4}{n} + 2s$ for $n = 4$, $s = 6$

59. $1.4(t - d)$ for $t = 9.4$, $d = 5.5$

60. $2nt$ for $n = 6$, $t = \frac{5}{16}$

61. $\frac{15}{n} + 6s$ for $n = -3$, $s = -6$

62. $3rn$ for $r = 5$, $n = -2.1$

Evaluate for the given value(s).

63. $A = lw$ for $l = 2.7$, $w = 2$

64. $A = \frac{1}{2}(B + b)h$ for $B = 7$, $b = 5$, $h = 9$

65. $V = \frac{4}{3}\pi r^3$ for $\pi = 3.14$, $r = 3$

66. The formula $P = 2(l + w)$ gives the perimeter of a rectangle. Find the perimeter of a rectangle whose length $l = 9$ inches and width $w = 7$ inches.

67. The formula $S = 2(lw + wd + ld)$ gives the surface area of a rectangular solid. Find the surface area of the solid with length $l = 7$ meters, width $w = 4$ meters, and depth $d = 9$ meters.

Solve.

68. $\sqrt{\square} = 3$

69. $19 = n + 12$

70. $s - 25 = 38$

71. $5\frac{2}{5} - s = 1\frac{1}{10}$

72. $4b = -48$

73. $\frac{1}{10}b = 10$

74. $-\frac{5}{8}y = 40$

75. $\frac{s}{1.8} = 3$

76. $s^2 = 1.44$

77. $-\sqrt{d} = -4$

78. $-\sqrt{t} = -\frac{1}{3}$

79. $\frac{3x}{7} + 11 = 18$

80. $5y - 0.4 = 0.4$

81. $-14t + 15 = 21$

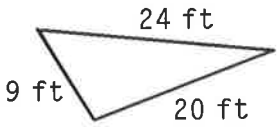
82. $-28 - a = -32$

83. $20x - (-9) = 25$

84. $-2a - 0.3 = 1.4$

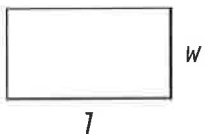
Find the perimeter.

85.

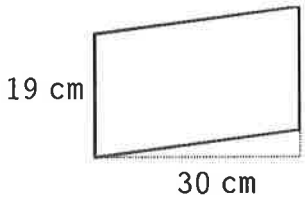


Find the area.

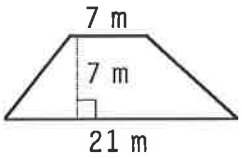
86. $l = 4\,\text{m}$, $w = 2\,\text{m}$



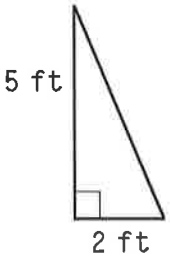
87.



88.

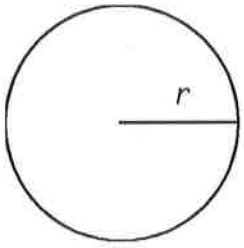


89.



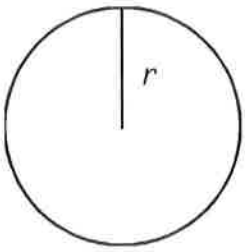
Find the circumference. (Use $\pi = 3.14$.)

90. $r = 10\,\text{m}$



Find the area. (Use $\pi = 3.14$.)

91. $r = 8\,\text{ft}$



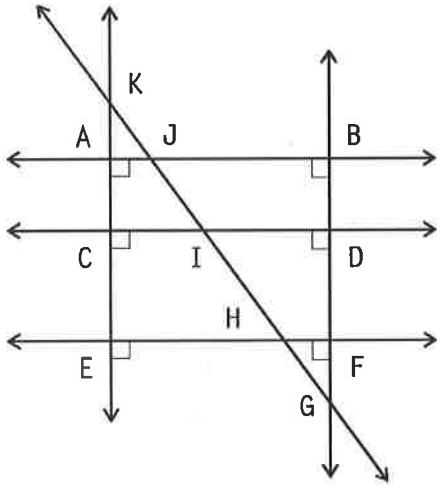
92. A rectangle has length $l = 12$ millimeters and width $w = 10$ millimeters. Find the area of the rectangle.

93. Find the area of a parallelogram with base $b = 5$ inches and height $h = 4$ inches.

94. What is the area of a trapezoid with one base $B = 2\frac{1}{6}$ feet, a second base $b = 1\frac{5}{6}$ feet and height $h = 3\frac{1}{3}$ feet?

95. A triangle with base $b = 2\frac{1}{3}$ feet and height $h = 1\frac{2}{3}$ feet. What is the area of the triangle?

Refer to the diagram to answer the questions.



96. Name a line perpendicular to $\overleftrightarrow{EF}$.

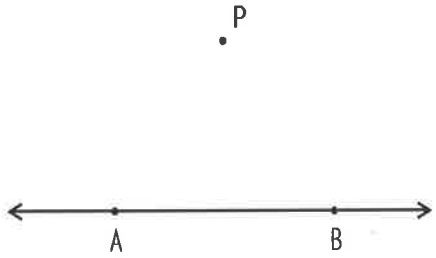
Draw each of the following.

97. a right triangle with base $b = 2\,\text{cm}$ and height $h = 5\,\text{cm}$

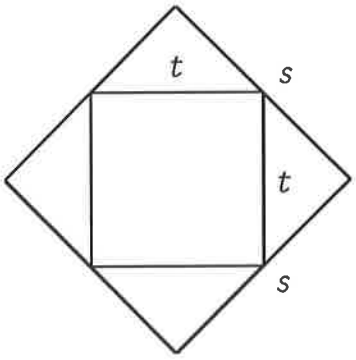
98. the ray $\overrightarrow{EF}$

99. the right angle $\angle RST$

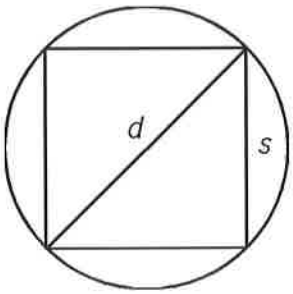
100. Construct a perpendicular to $\overleftrightarrow{AB}$ through point P.



101. Find the area of a square inscribed in a square with perimeter $P = 8$ inches.



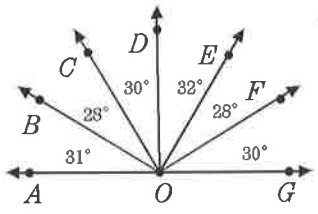
102. Find the circumference of a circle circumscribed about a square with area $A = 2$ inches.



103. Find the perimeter of a square inscribed in a circle with circumference $C = 10$ inches.

104. In the figure, name a pair of perpendicular rays?

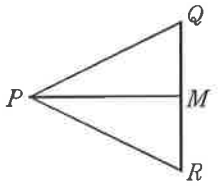
a) $\overrightarrow{OB}$ and $\overrightarrow{OC}$
b) $\overrightarrow{OD}$ and $\overrightarrow{OF}$
c) $\overrightarrow{OA}$ and $\overrightarrow{OD}$
d) $\overrightarrow{OB}$ and $\overrightarrow{OE}$
e) $\overrightarrow{OA}$ and $\overrightarrow{OG}$



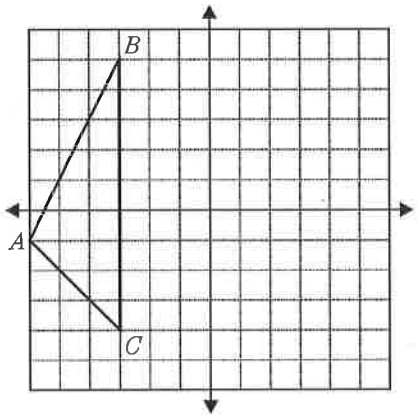
105. How many lines of symmetry does an equilateral triangle have?

106. How many planes of symmetry does a right rectangular pyramid have?

107. Name the transformation that maps $\triangle PMR \rightarrow \triangle PMQ$.

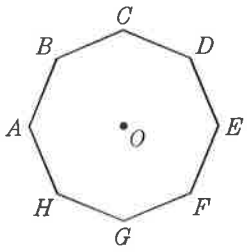


108. In the diagram, $\triangle ABC$ has points $A(-6,-1)$, $B(-3,5)$, and $C(-3,-4)$. Sketch and label the image $\triangle A'B'C'$ under the translation $T(x,y) \rightarrow (x+4, y-1)$. Then draw arrows from points A to A', B to B', and C to C'. Name a characteristic shared by $\overrightarrow{AA'}$, $\overrightarrow{BB'}$, and $\overrightarrow{CC'}$.



109. Using the diagram of the regular octagon with center O, determine where the given point ends up after the assigned rotation.

$R_{O,-270}$: $C \rightarrow$ ____



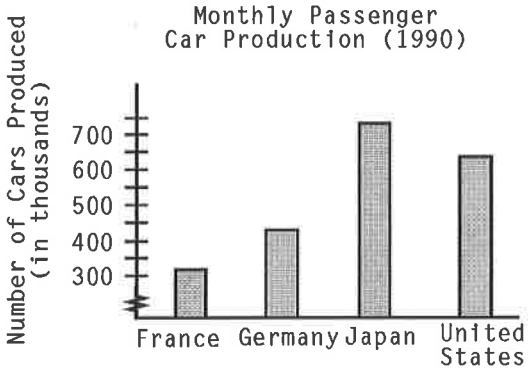
110. What is the image of the point $(1,1)$ under a rotation of 30° about the point $(2,2)$? Express your answer to the nearest hundredth.

111. A mapping R maps each point (x, y) to the point $(3x, y + 2)$. Express this mapping using mapping notation *and* determine the image of the point $(3, 1)$.

Find the range, mean, median and mode.

112. 321, 278, 304, 278, 350, 304, 288, 300, 304

113. About how many cars per month were produced in Germany in 1990?



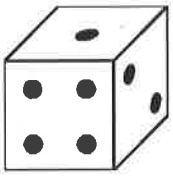
114. Who ruled England for the shortest period of time?

British Monarchs		
	age when rule began	*age at death*
Queen Victoria	18	81
King Edward VII	60	68
King George V	44	70
King Edward VIII	42	77
King George VI	41	57
Queen Elizabeth II	26	*living*

115. Find the number of possible outcomes if you pick a card from a deck of 52 and you toss a coin?

116. You pick a marble from a bag of 5 differently colored marbles, then replace the marble, and pick another. Find the number of possible outcomes.

117. Find P(1 and black)



roll a die

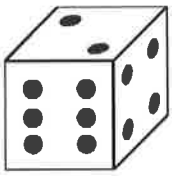
4 black, 4 gray and 5 white
pick a marble

118. Find P(tail and diamond)

flip a coin

pick a card

119. Find P(odd number and king)



roll a die

pick a card

120. A bag of marbles contains 4 black, 4 gray and 5 white marbles. Find the probability of picking a gray marble, then picking a black marble, without first replacing the gray marble.

121. What is the probability of choosing a black card then a red card from a deck of 52 cards, without returning the first card to the deck?

122. Find the probability of picking the 10 of spades then an 8 from a deck of 52 cards, without replacing the first card.

Grade 7 Part 2 1/14/2014

Answer List

1. $<$
2. $>$
3. $\frac{1}{5}$, 0.5, $\frac{3}{4}$, 0.82, 1.65
4. $5 \times 5 \times 3$
5. $5 \times 5 \times 2 \times 2$
6. $2 \times 2 \times 2 \times 2 \times 3$
7. -3
8. $17\frac{3}{8}$
9. -12
10. 199
11. -306.51
12. $\frac{49}{12}$
13. $\frac{16}{11}$
14. -108
15. $-\frac{9}{2}$
16. $-\frac{27}{55}$
17. -5.3
18. $\frac{7}{15}$
19. $-\frac{1}{5}$
20. 43
21. 27
22. -5.6
23. 0.9
24. 1 : 2
25. 1 : 15
26. $\frac{9}{4}$
27. 7 : 4
28. $\frac{1}{12}$
29. $8y : 3$
30. 75
31. $\frac{15}{4}$
32. IV
33. IV
34. IV
35. IV
36. IV
37. IV
38. IV
39. $a + 6$
40. $17 - w$
41. $\frac{22}{cd}$
42. $19 + a^2$
43. $10d + 5n$
44. $2n$
45. $7n + 1$
46. $p - 0.2p$ or $0.8p$
47. 6
48. 17.1
49. -11
50. -2.3
51. 24
52. 5
53. -1
54. -7
55. 3.5
56. $-25\frac{4}{9}$
57. $5\frac{2}{3}$
58. 13
59. 5.46
60. $\frac{15}{4}$
61. -41
62. -31.5
63. 5.4
64. 54
65. 113.04
66. 32 in
67. $254\,\text{m}^2$
68. 9
69. 7
70. 63
71. $4\frac{3}{10}$
72. -12
73. 100
74. -64
75. 5.4
76. 1.2
77. 16
78. $\frac{1}{9}$
79. $16\frac{1}{3}$
80. 0.16
81. $-\frac{3}{7}$
82. 4
83. $\frac{4}{5}$
84. -0.85
85. 53 ft
86. $8\,\text{m}^2$
87. $570\,\text{cm}^2$
88. $98\,\text{m}^2$
89. $5\,\text{ft}^2$
90. 62.8 m, $314\,\text{m}^2$
91. 50.24 ft, $200.96\,\text{ft}^2$
92. $120\,\text{mm}^2$
93. 20 in^2
94. $6\frac{2}{3}\,\text{ft}^2$
95. $1\frac{17}{18}\,\text{ft}^2$
96. $\overleftrightarrow{BG}$, $\overleftrightarrow{AE}$
97.
98.
99.
100.
101. $2\,\text{in}^2$
102. ≈ 6.3 in
103. ≈ 9.0 in
104. d
105. 3

106. 2

107. reflection in $\overline{PM}$

108. $A'(-2,-2)$, $B'(1,4)$, $C'(1,-5)$; rays are parallel

109. A

110. $(1.63, 0.63)$

111. R: $(x,y) \rightarrow (3x, y+2)$; $(9,3)$

112. 278–350, 303, 304, 304

113. 400,000

114. Edward VII

115. 104

116. 25

117. $\frac{2}{39}$

118. $\frac{1}{8}$

119. $\frac{1}{26}$

120. $\frac{4}{39}$

121. $\frac{13}{204}$

122. $\frac{1}{663}$

Catalog List

1. PRE DE 145
2. PRE DE 165
3. PRE DF 45
4. PRE DH 25
5. PRE DH 65
6. PRE DH 45
7. PRE DI 105
8. PRE DI 185
9. PRE DJ 65
10. PRE DJ 105
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13. PRE DK 105
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17. PRE DL 105
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20. PRE DM 25
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22. PRE DM 185
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24. PRE GA 25
25. PRE GA 85
26. PRE GB 25
27. PRE GB 65
28. PRE GB 105
29. PRE GB 145
30. PRE GD 25
31. PRE GD 45
32. PRE IA 25
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39. ALG CF 25
40. ALG CF 65
41. ALG CF 105
42. ALG CF 145
43. ALG CF 185
44. PRE JG 25
45. PRE JG 45
46. PRE JG 85
47. PRE KA 25
48. PRE KA 65
49. PRE KA 145
50. PRE KA 185
51. PRE KB 25
52. PRE KB 65
53. PRE KB 105
54. PRE KB 145
55. PRE KB 185
56. PRE KB 205
57. PRE KC 105
58. PRE KD 25
59. PRE KD 65
60. PRE KD 105
61. PRE KD 145
62. PRE KD 185
63. PRE KE 25
64. PRE KE 45
65. PRE KE 65
66. PRE KF 5
67. PRE KF 25
68. PRE LA 105
69. PRE LB 25
70. PRE LB 65
71. PRE LB 245
72. PRE LC 25
73. PRE LC 105
74. PRE LC 145
75. PRE LC 165
76. PRE LD 25
77. PRE LD 65
78. PRE LD 105
79. PRE LE 25
80. PRE LE 65
81. PRE LE 105
82. PRE LE 145
83. PRE LE 185
84. PRE LE 205
85. PRE OA 6
86. PRE OB 5
87. PRE OC 5
88. PRE OD 5
89. PRE OE 5
90. PRE OF 5
91. PRE OF 2
92. PRE OG 25
93. PRE OG 65
94. PRE OG 105
95. PRE OG 125
96. PRE NB 5
97. PRE NM 54
98. PRE NM 74
99. PRE NM 94
100. PRE NO 5
101. PRE NP 5
102. PRE NP 25
103. PRE NP 45
104. MMA KG 5
105. GEO LJ 5
106. GEO LJ 25
107. GEO LK 5
108. GEO LK 65
109. GEO LK 105
110. GEO LK 125
111. GEO LL 3
112. PRE PA 5
113. PRE PC 5
114. PRE PD 105
115. PRE PE 5
116. PRE PE 25
117. PRE PG 25
118. PRE PG 65
119. PRE PG 85
120. PRE PH 5
121. PRE PH 25
122. PRE PH 45