

# PRENSICA, JOSHUA WEEK 12 PART 1

NO.:  
DATE:

Prensica, Joshua B61T 2-3

I.

$$\begin{aligned}
 &1. (45 \bmod 6 + (72/8)^3) \\
 &= (3) + (9)^3 \\
 &= \boxed{30 (\text{integer})} \\
 &2. (36 + 2(2)) - (66/2(3)) \\
 &= (42) - (99) \\
 &= \boxed{-57 (\text{integer})} \\
 &3. (45 + 74 - 31) / (4(2+3)) \\
 &= (81) / (11) \\
 &= \boxed{7.36 (\text{NOT INTEGER})} \\
 &4. (98 \bmod 5) (5/9+2) \\
 &= (3) (\frac{5}{6}) \\
 &= \boxed{2.5 (\text{NOT})}
 \end{aligned}$$

II.

$$\begin{aligned}
 &1. 45, 75, 105 \\
 &45 \\
 &45, 90, 135, 180, 225, 270, 315, 360, 405, 450 \\
 &495, 540, 585, 630, 675, 720, 765, 810, 855, \\
 &900, 945, 990, 1035, 1080, 1125, 1170, 1215, 1260 \\
 &1305, 1350, 1395, 1440, 1485, 1530, \underline{1575}, 1620 \\
 &1665 \\
 &75: \\
 &75, 150, 225, 300, 375, 450, 525, 600, 675, 750, \\
 &825, 900, 975, 1050, 1125, 1200, 1275, 1350, 1425, \\
 &1500, \underline{1575}, 1650, 1725 \\
 &105: \\
 &105, 210, 315, 420, 525, 630, 735, 840, 945, \\
 &1050, 1155, 1260, 1365, 1470, \underline{1575} \\
 &\boxed{LCM: 1575}
 \end{aligned}$$

III.

$$2. 36, 108, 48$$

$$\begin{aligned}
 &36: \\
 &36, 72, 108, 144, 180, 216, 252, \\
 &288, 324, 360, 396, \underline{432}, 468, 504 \\
 &48: \\
 &48, 96, 144, 192, 240, 288, 336, 384, \\
 &\underline{432}, 480, 528 \\
 &108: \\
 &108, 216, 324, \underline{432}
 \end{aligned}$$

$$\boxed{LCM: 432}$$

$$3. 49, 147, 84$$

$$\begin{aligned}
 &49: \\
 &49, 98, 147, 196, 245, 294, 343, 392, 441, 490 \\
 &539, \underline{588}, 637 \\
 &84: \\
 &84, 168, 252, 336, 420, 504, \underline{588} \\
 &147: \\
 &147, 294, 441, \underline{588} \\
 &\boxed{LCM: 588}
 \end{aligned}$$

$$4. 64, 72, 96$$

$$\begin{aligned}
 &64: \\
 &64, 128, 192, 256, 320, 384, 448, 512, \underline{576} \\
 &72: \\
 &72, 144, 216, 288, 360, 432, 504, \underline{576} \\
 &96: \\
 &96, 192, 288, 384, 480, 576 \\
 &\boxed{LCM: 576}
 \end{aligned}$$

VICTORY



# PRENSICA, JOSHUA WEEK 12 PART 2

NO.:  
DATE:

12 Prensica, Joshua BSIT 2-3

#

5

81, 216, 135

91:

81, 162, 243, 324, 405, 486, 567, 648, 729, 810, 891

972, 1053, 1134, 1215, 1296, 1377, 1458, 1539, 1620, 1701

1782, 1863, 1944, 2025, 2106, 2187, 2268, 2349, 2430

2511, 2592, 2673, 2754, 2835, 2916, 2997, 3078,

3159, 3240

135:

135, 270, 405, 540, 675, 810, 945, 1080, 1215, 1350

1485, 1620, 1755, 1890, 2025, 2160, 2295, 2430, 2565

2700, 2835, 2970, 3105, 3240

216:

216, 432, 648, 864, 1080, 1296, 1512, 1728, 1944, 2160,

2376, 2592, 2808, 3024, 3240

LCM = 3240

IV.

1.  $67 \bmod 13 = 9$

2.  $11 \bmod 18 = 11$

$9 \bmod 13 = 9$

$3 \bmod 18 = 3$

congruent

congruent

2.  $92 \bmod 25 = 17$

4.  $77 \bmod 11 = 0$

$17 \bmod 25 = 17$

$0 \bmod 11 = 0$

congruent

congruent

5.  $69 \bmod 6 = 3$

$3 \bmod 6 = 3$

congruent

III

1) 75, 45, 105

75: 1, 3, 5, 15, 75

45: 1, 3, 5, 9, 15, 45

105: 1, 3, 5, 7, 15, 21, 35, 105

GCD: 15

2) 36, 108, 144

36: 1, 2, 3, 4, 6, 9, 12, 18, 36

108: 1, 2, 3, 4, 6, 9, 12, 18, 27, 36, 54, 108

144: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48, 144

GCD: 12

3) 49, 147, 84

49: 1, 7, 49

147: 1, 3, 7, 21, 49, 147

84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

GCD: 7

4) 64, 96, 72

64: 1, 2, 4, 8, 16, 32, 64

96: 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96

72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

GCD: 8

5) 81, 216, 135

81: 1, 3, 9, 27, 81

216: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 27, 36, 54, 72, 108, 216

GCD: 27

