€• , € ƒ€„...†‡‰ Š†‹Œ•Ž, € ƒ€„...†••ˆ(H.C.F. and L.C.M.)

€• , € ƒ€„...†‡‰ €• , ƒ „ , ... , †‡ˆ‰Š ‰ˆƒ •Ž• ‹‰† ...•' '† ƒ", "• — ˜™ ...•' '† š •‹• ‡œš'†Žˆ•†Ž"‰ ‹ž‰– ƒ"Ÿ "“... € ...•' '†¡¢10 , 20 , 30 ‹† , ƒ „ , ... , †‡ˆ‰Š 10 ƒ"Ÿ

ƒ€„...†‡‰ (Common Factor) € £...– ...•' '† "• —• '† —• ... •Ž• ‹ ...•' '† š •,¤... ¥¦' ‹ ‹• ‡ž–€ ‡ž–Žˆ•†Ž"‰ ‹ž¤, "“... € 10 , 20 , 30 ‹† ... , †‡ˆ‰Š 2 , 5 , 10 ƒ"Ÿ

Œ•Ž, € ƒ€„...†••ˆ€ —• '† —• ... •Ž• ‹ ...•' '† š •‹† • §¨©„ , ... , †‡ˆ¦'ŠˆƒªŠ•«–€ ... € ª•«–...•' '† ƒ", "• ¬- — ˜™ ...•' '† ,¤... ¥¦' ‹ ... ‡œš'†Žˆ•†Ž"‰ ƒ• "†‰– ƒ"Ÿ "“... € 3 , 5 , 6 ‹† §¨®„ , ... , †‡ˆ¦'Š30 ƒ", ®'¯Ž‹ 30 ‹• ' ‰–¯...•' '†¡¢ ° , ±²Žˆ•†Ž"‰ ‹ž ...‹‰– ƒ³Ÿ

ƒ€„...†••ˆ(Common Multiple) € ¡‹ ...•' '† "• —• '† —• ... •Ž• ‹ ...•' '† š •,¤Ÿ ... ¥¦' ‹ ... ‡ž–€ ‡ž–Žˆ•†Ž"‰ ƒ•‰– ƒ•, ‰• ˆƒ ...•' '† ¬- ...•' '† š •‹– ... , †‡ˆ¦'Šƒ§†‰– ƒ", "“... € 3 , 5 , 6 ‹† ... , †‡ˆ¦'Š30 , 60 , 90 ´ Ž– ƒ³Ÿ

' ...†‡‰ Š†‹' ...†••ˆ(Factor and Multiple) € 'Ž– ¡‹ ...•' '† m —›.ž– ...•' '† n ‹• ‡ž–€ ‡ž– ‹†«‰– ƒ", ‰• m ‹• n ‹† •‡ˆ‰Š (Factor) ‰µ† n ‹• m ‹† •‡ˆ¦'Š Multiple) ‹ƒ‰ ƒ³Ÿ

€• , € ƒ€„...†‡‰ ' „‡ ‰“”•‰– –†–˜•„™

1 . šž"œ•ž -†-˜ €¶... ŽˆŽ• ,¤— ˜™ ...•– ...•' '† š •‹ · ¸ ˜@- ¹º» ‹ž‰ ƒ³Ÿ ‰µ† "• ...•' '†¡¢.. •– ,¤..ˆŠ½ ƒ¯¬- ‹† ˜@† ‹ž‰ ƒ³Ÿ

"“... € 28 , 42 ¾ž 98 ‹† , ... €

28 , 42 ¾ž 98 ‹† , ... = **2 Ÿ 7 = 14**

2 . „š -†-˜ €¶... ŽˆŽ• ,¤— ˜™ ...•' '† š •,¤... ...¿... ª•«–...•' '† ... ¬..... ¿À–...•' '† ,¤•†˜ –‰ ƒ³, ‰¦‡ÁÂ†‰Ã¿Â ±Ä ... •†" ‹ ,¤•†˜ Ž–'† "†‰† ƒ"¾ž ' ƒ Ž° '† ‰¿ ‰‹ ‹ž‰ ƒ³, "¿ ‰‹ ±Å' ±Ä ¿Â , ‰¿ •ŽÅ‰, •†" ‹ ƒ–— ƒ© ...•' '† š •‹† , ... ƒ•˜† 'Ž– ...•' '† ‰–- ƒ³, ‰• ¥†£‰ , ... ‰µ† ‰–...ž– ...•' '† ‹ ...†µ ' ƒ–Ž° '† ‹ž‰ ƒ³Ÿ ´ ˜ ¶...– ‰žƒ ‹ž‰ "†‰ ƒ³|

"“... € 36 , 54 , 81 ‹† , ... €
...ˆŠµ , 36 ‰µ† 54 ‹† , ... ¶... ŽˆŽ• ... Ž- ‹†§‰ ƒ³Ÿ

• ‰² 36 ‰µ† 54 ‹† , ... = **18**

• ¿ , 18 ‰µ† 81 ‹† , ... Ž- ‹†§‰ *f*³Ÿ

• ‰² 36 , 54 ‰µ† 81 ‹† , ... **9** *f*“Ÿ

Œ•Ž € *f* €„...†••^’ „‡ ‰“”•‰– –†–˜ •„™

1 . šž”œ•ž -†-˜ € — *f*©...•’ ’† š •‹ • •†Ç’ ˜@- ¹º» È†‰ ‹ž §‰ *f*³‰µ† ˜@- ¹º»¯ ‹• ¨†‰ ... ¥–Ž±Š ‹ž‰ *f*³, ‰¦‡ÁÂ†‰Ã• Ž• ‹‰ , ¨†‰ ^†§– ...•’ ’† š •‹† ˜@† ‹ž‰ *f*³|

”“... € 16 , 24 , 40 , 42 ‹† §..... €

16 = 2 É 2 É 2 É 2 **= 2^4**
24 = 3 É 2 É 2 É 2 **= 3 Ÿ 2^3**
40 = 5 É 2 É 2 É 2 **= 5 Ÿ 2^3**
42 = 7 É 3 É 2 **= 7 Ÿ 3 Ÿ 2**

§..... = 2^4 É 3 É 5 É 7 = 16 É 105 = 1680

2 . „š -†-˜ € ¶... Ž^Ž• ‹•Ž-Ê- ¬–†*f*žœ Ë†Ž† ... , Ì† ”† ...‹‰† *f*“Ÿ

¬–†*f*žœ†µŠ 36 , 48 ¾ž 80 ‹† § . ... . €

• ‰² 36 , 48 ¾ž 80 ‹† § . ... . **= 2 Ÿ 2 Ÿ 2 Ÿ 2 Ÿ 3 Ÿ 3 Ÿ 5 = 720**

¶... ,¤...•’ ’† š •‹• ¬• ’Ž-½ • •†Ç’ •†” ‹¯ Ë†Ž† Ž^ •†Ž” ‰ Ž‹ ’† ”† ...‹‰† *f*“‰µ† ¶... Ž° ’† ‹– ‡©Ž†^Ĺ„ ‰¿ ‰‹ ‹ž‰ *f*³ ”¿ ‰‹ ±Ä Î § ¡‹ ¥†£‰ *f*• Ÿ ¶- • •†Ç’ •†” ‹¯ ‹† ˜@- Î § *f*– • •–¼« §..... *f*•˜† Ÿ

¡¢€Œ† *f*£•„ ¤ ‹‰„ Œ . *f* . ‡¥„ € . *f* . –”‰„Œ”„

— ˜™ ...•– –± , § ^ ...•’ ’† š •‹• ‡Žž , ’ ...•’ ’† p/q ‹ · ‡ ,¤Ž§ ¹ ‰ *f*³‰µ† Ž•Å-¯ ‹ ´ •†ž ‡ž ¬- ‹† §..... ’† , ... È†‰ ‹ž‰ *f*³|

”“... € 7 , 10.5 ¡^•1.4 ‹† , ... €

• ‰² 7 = 7/1,

10.5 = 105/10,

1.4 = 14/10

, ... = (7 ,105 14 ‹† , ...)/(1 ,10 ,10 ‹† §.....) = 7/10 = 0.7

– ¦”§‰„ €.ƒ..... Š†‹Œ.ƒ.....

Ž•Å-¯ ‹† , ...‡. = (••±¯ ‹† , ...‡.)/(ƒž¯ ‹† §.....‡.)

Ž•Å-¯ ‹† §.....‡. = (••±¯ ‹† §.....‡.)/(ƒž¯ ‹† , ...‡.)

€•••†...¨›^ƒ©

’Ž–Ž‹Åƒ–•...•' ’† š •,¤‹•™ ¬• ’Ž-½ ˜@- ¹º» - ƒ•, ‰• ¬- ‹† , ... 1 ‰µ† §..... ¬- ‹† ˜@- Î § ƒ•‰† ƒ“Ÿ

‡ƒ §– ...•' ’† É –›.Ž– ...•' ’† = §..... É , ...

Ž•Å-¯ ‹† , ...‡. = (•••±¯ ‹† , ...‡.)/(ƒž¯ ‹† §.....‡.)

Ž•Å-¯ ‹† §.....‡. = (•••±¯ ‹† §.....‡.)/(ƒž¯ ‹† , ...‡.)

ª •Ž†‰«...–• ¬- ” (Multiple Choice Questions)

Ques. 1: •–¡ ¡§ ƒ£•„Š™CM = 840 ®“ GCD = 14 •¯ ®“ Š‰ ƒ£•„ 84 •¦ ‡§ ¡Ï“- ƒ£•„ ’ „‡ ‰“™

○ (A) 120

○ (B) 140
○ (C) 168
○ (D) 210

Ques. 2: ¡§ ƒ£•„Š™144 ®“ 192 •¯² ³”‰„ GCD ’„‡ ‰–´Š²

○ (A) 24
○ (B) 48
○ (C) 36
○ (D) 72

Ques. 3: ‡-” ƒ£•„Š™50, 75 ®“ 100 •¯² ³”‰„ LCM ’„‡ ‰“±

○ (A) 300
○ (B) 600
○ (C) 150
○ (D) 200

Ques. 4: ¡§ ƒ£•„Š™132 ®“ 198 •¯² µ”‰„ GCD ’„‡ ‰–´Š²

○ (A) 22
○ (B) 33
○ (C) 44
○ (D) 66

Ques. 5: •-¡ GCD(x, 180) = 6 ®“ LCM(x, 180) = 540 •; ‡§ x ‰¶” ƒ- ƒ£•„ •§ ƒ‰‡- •°

○ (A) 18
○ (B) 36
○ (C) 54
○ (D) 72

Ques. 6: 36, 60 ®“ 84 ‡-” ƒ£•„Š™² ³”‰„ LCM ’„‡ ‰“±

○ (A) 420
○ (B) 840
○ (C) 1260
○ (D) 180

Ques. 7: 105 ®“ 252 ¡§ ƒ£•„Š™² ³”‰„ GCD ’„‡ ‰–´Š²

○ (A) 21
○ (B) 35
○ (C) 42
○ (D) 70

Ques. 8: 48 ®“ 90 ¡§ ƒ£•„Š™² ³”‰„ LCM ¸•„ •§š„·

○ (A) 180
○ (B) 240
○ (C) 360
○ (D) 420

Ques. 9: 99 ®“ 121 ¡§ ƒ£•„Š™² µ”‰„ LCM ’„‡ ‰–´Š²

○ (A) 1089
○ (B) 1210
○ (C) 1199
○ (D) 1001

Ques. 10: 108, 144 ®“ 180 ‡-” ƒ£•„Š™² ³”‰„ GCD ’„‡ ‰—´Š²

○ (A) 12
○ (B) 18
○ (C) 36
○ (D) 24

Ques. 11: ¡§ ƒ£•„Š™2 ®“ 108 •¯² ³”‰„ LCM ¸•„ •§š„·

○ (A) 216
○ (B) 324
○ (C) 432
○ (D) 288

Ques. 12: ¡§ ƒ£•„Š™20 ®“ 180 •¯² ³”‰„ GCD ’„‡ ‰“±

○ (A) 30
○ (B) 60
○ (C) 90
○ (D) 120

Ques. 13: •-¡ a Ÿ b = 4320 ®“ GCD(a,b)=12 •° ‡§ LCM(a,b) ¸•„ •§š„·

○ (A) 360
○ (B) 432
○ (C) 3600
○ (D) 4320

Ques. 14: 32, 48 ®“ 80 ‡-” ƒ£•„Š™² ³”‰„ LCM ’„‡ ‰—´Š²

○ (A) 240
○ (B) 320
○ (C) 480
○ (D) 160

Ques. 15: 56 ®“ 98 ¡§ ƒ£•„Š™² µ”‰„ GCD ¸•„ •§š„·

○ (A) 14
○ (B) 28
○ (C) 7
○ (D) 21

Ques. 16: ¡§ ƒ£•„Š™45 ®“ 75 •² ³”‰„ LCM ’„‡ ‰“±

○ (A) 150
○ (B) 225
○ (C) 90
○ (D) 180

Ques. 17: ‡-” ƒ£•„Š™84, 126 ®“ 210 •² ³”‰„ GCD ’„‡ ‰—´Š²

○ (A) 14
○ (B) 21
○ (C) 42
○ (D) 28

Ques. 18: •–¡ LCM(24, x) = 120 ®“ GCD(24, x) = 6 •°¸ ‡§ x ‰¶” ƒ- ƒ£•„ •§ ƒ‰‡- •°

○ (A) 30
○ (B) 36
○ (C) 48
○ (D) 60

Ques. 19: ¡§ ƒ£•„Š¹420 ®“ 594 •¯² µ”‰„ GCD ’„‡ ‰“±

○ (A) 42
○ (B) 18
○ (C) 6
○ (D) 126

Ques. 20: ¡§ ƒ£•„Š¹360 ®“ 252 •¯² ³” ¡§”§‰„ LCM ’„‡ ‰—´Š²

○ (A) 1260
○ (B) 1512
○ (C) 2520
○ (D) 1800