

6

Name: \_\_\_\_\_

Score: \_\_\_\_\_

Answers

(A) Rewrite in expanded form:

- 1)  $23^7$   
 $= 23 \times 23 \times 23 \times 23 \times 23 \times 23 \times 23$
- 2)  $3^8$   
 $= 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$
- 3)  $5^9$   
 $= 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5$
- 4)  $18^5$   
 $= 18 \times 18 \times 18 \times 18 \times 18$

(B) Rewrite in exponent form:

- 1)  $4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4$   
 $= 4^7$
- 2)  $22 \times 22 \times 22 \times 22 \times 22 \times 22$   
 $= 22^6$
- 3)  $9 \times 9 \times 9 \times 9$   
 $= 9^4$
- 4)  $17 \times 17 \times 17 \times 17 \times 17$   
 $= 17^5$

(C) Rewrite in standard form:

- 1)  $2^{10}$   
 $= 1024$
- 2)  $11^3$   
 $= 1331$
- 3)  $4^4$   
 $= 256$
- 4)  $13^2$   
 $= 169$
- 5)  $5^4$   
 $= 625$
- 6)  $9^3$   
 $= 729$
- 7)  $8^3$   
 $= 512$
- 8)  $15^2$   
 $= 225$
- 9)  $1^9$   
 $= 1$
- 10)  $6^4$   
 $= 1296$

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Complete the Numerical Series

- 1) 18, 23, 20, 25, 22, 27, 24, 29, 26, 31  
Add 5 then Subtract 3
- 2) 7, 13, 11, 17, 15, 21, 19, 25, 23, 29  
Add 6 then Subtract 2
- 3) 25, 29, 26, 30, 27, 31, 28, 32, 29, 33  
Add 4 then Subtract 3
- 4) 10, 14, 8, 12, 6, 10, 4, 8, 2, 6  
Add 4 then Subtract 6
- 5) 2, 9, 5, 12, 8, 15, 11, 18, 14, 21  
Add 7 then Subtract 4
- 6) 6, 10, 8, 12, 10, 14, 12, 16, 14, 18  
Add 4 then Subtract 2
- 7) 10, 11, 5, 6, 0, 1, -5, -4, -10, -9  
Add 1 then Subtract 6
- 8) 13, 14, 10, 11, 7, 8, 4, 5, 1, 2  
Add 1 then Subtract 4
- 9) 11, 14, 7, 10, 3, 6, -1, 2, -5, -2  
Add 3 then Subtract 7
- 10) 13, 18, 17, 22, 21, 26, 25, 30, 29, 34  
Add 5 then Subtract 1

Patterns 2

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Name : \_\_\_\_\_ Score : \_\_\_\_\_  
 Teacher : \_\_\_\_\_ Date : \_\_\_\_\_

Order of Operations

- 1)  $3 \times 5 \times (6 - 3)$   
 $3 \times 5 \times 3$   
 $15 \times 3$   
 $45$
- 2)  $(9 + 42 - 3) + 3$   
 $(51 - 3) + 3$   
 $48 + 3$   
 $16$
- 3)  $(11 + 4) \times 9 - 5$   
 $15 \times 9 - 5$   
 $135 - 5$   
 $130$
- 4)  $(21 - 8) \times 12 + 4$   
 $13 \times 12 + 4$   
 $156 + 4$   
 $160$
- 5)  $(8 + 34 - 6) + 3$   
 $(42 - 6) + 3$   
 $36 + 3$   
 $12$
- 6)  $3 \times 11 \times (2 + 6)$   
 $3 \times 11 \times 8$   
 $33 \times 8$   
 $264$
- 7)  $(14 + 4) + 24 \div 6$   
 $18 + 24 \div 6$   
 $18 + 4$   
 $22$
- 8)  $(15 + 5) + 10 \div 5$   
 $20 + 10 \div 5$   
 $20 + 2$   
 $22$
- 9)  $(9 + 51) \div (7 - 5)$   
 $60 \div 2$   
 $30$
- 10)  $(10 + 14) \div (5 + 7)$   
 $24 \div 12$   
 $2$

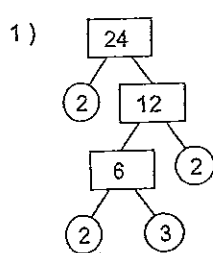
Answer Key

Is the number to left of each row divisible by the number at the top of each column? Write yes or no in each box.

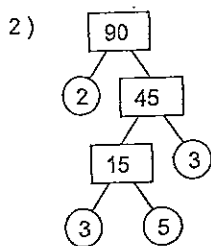
	2	3	4	5	6	9
39	No	Yes	No	No	No	No
26	Yes	No	No	No	No	No
30	Yes	Yes	No	Yes	Yes	No
81	No	Yes	No	No	No	Yes
84	Yes	Yes	Yes	No	Yes	No
35	No	No	No	Yes	No	No
41	No	No	No	No	No	No
45	No	Yes	No	Yes	No	Yes
80	Yes	No	Yes	Yes	No	No
79	No	No	No	No	No	No



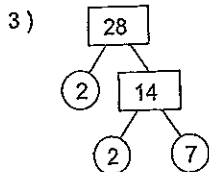
Find the Prime Factors of the Numbers



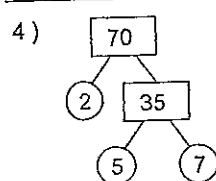
Factors  
 $2 \times 2 \times 2 \times 3 = 24$



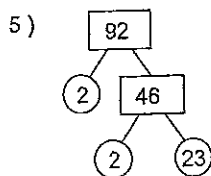
Factors  
 $2 \times 3 \times 3 \times 5 = 90$



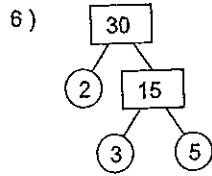
Factors  
 $2 \times 2 \times 7 = 28$



Factors  
 $2 \times 5 \times 7 = 70$



Factors  
 $2 \times 2 \times 23 = 92$



Factors  
 $2 \times 3 \times 5 = 30$

Simplify Fractions

- 1)  $\frac{10}{25} = \frac{2}{5}$     11)  $\frac{42}{60} = \frac{7}{10}$   
 2)  $\frac{9}{72} = \frac{1}{8}$     12)  $\frac{12}{36} = \frac{1}{3}$   
 3)  $\frac{20}{70} = \frac{2}{7}$     13)  $\frac{35}{56} = \frac{5}{8}$   
 4)  $\frac{20}{30} = \frac{2}{3}$     14)  $\frac{20}{50} = \frac{2}{5}$   
 5)  $\frac{4}{16} = \frac{1}{4}$     15)  $\frac{60}{70} = \frac{6}{7}$   
 6)  $\frac{18}{27} = \frac{2}{3}$     16)  $\frac{36}{54} = \frac{2}{3}$   
 7)  $\frac{3}{12} = \frac{1}{4}$     17)  $\frac{45}{90} = \frac{1}{2}$   
 8)  $\frac{8}{16} = \frac{1}{2}$     18)  $\frac{30}{36} = \frac{5}{6}$   
 9)  $\frac{6}{54} = \frac{1}{9}$     19)  $\frac{32}{72} = \frac{4}{9}$   
 10)  $\frac{3}{6} = \frac{1}{2}$     20)  $\frac{20}{45} = \frac{4}{9}$

find GCF:

- 1.5  
2.9  
3.10  
4.10  
5.4  
6.9  
7.3  
8.8  
9.6  
10.3  
11.6  
12.6  
13.7  
14.10  
15.10  
16.6  
17.45  
18.6  
19.8  
20.5

Find the Least Common Multiple for each number pair.

- 1) 24, 10 120  
 2) 60, 6 60  
 3) 20, 40 40  
 4) 3, 4 12  
 5) 10, 40 40  
 6) 20, 60 60  
 7) 5, 60 60  
 8) 2, 10 10  
 9) 10, 15 30  
 10) 4, 24 24  
 11) 3, 5 15  
 12) 6, 8 24  
 13) 15, 6 30  
 14) 6, 4 12  
 15) 5, 15 15

Directions: Complete the following table. The top row has been filled in for you to use as a model.

Expanded Notation	Exponential Notation	Standard Notation
2 x 2	2 <sup>2</sup>	4
6 x 6	6 <sup>2</sup>	36
3 x 3 x 3 x 3	3 <sup>4</sup>	81
10 x 10 x 10 x 10	10 <sup>4</sup>	10,000
11 x 11	11 <sup>2</sup>	121
8 x 8	8 <sup>2</sup>	64
7 x 7 x 7	7 <sup>3</sup>	343
4 x 4 x 4	4 <sup>3</sup>	64
Challenge:		
2 x 2 x 5 x 7	2 <sup>2</sup> x 5 x 7	140
2 x 2 x 2 x 5 x 5	2 <sup>3</sup> x 5 <sup>2</sup>	200
2 x 2 x 2 x 3 x 7	2 <sup>3</sup> x 3 x 7	168