

**Exercises of Natural numbers**


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1 Calculate these expressions:

a)  $1470 - 474$

b)  $462 + 7935$

c)  $7772 - 785$

d)  $8254 - 2546$

e)  $4018 + 1877$

f)  $5125 - 4914$

2 Calculate the set of divisors of the following numbers and decide if they are prime or composite numbers:

a) 48

b) 30

c) 33

d) 36

e) 39

f) 69

3 Write the following repeated multiplications as powers:

a)  $14 \cdot 14 \cdot 14 \cdot 14 \cdot 14 \cdot 14$

b)  $13 \cdot 13 \cdot 13$

c)  $13 \cdot 13 \cdot 13 \cdot 13 \cdot 13$

d)  $15 \cdot 15 \cdot 15 \cdot 15$

e)  $29 \cdot 29 \cdot 29 \cdot 29$

f)  $25 \cdot 25 \cdot 25 \cdot 25 \cdot 25$

4 Round the following numbers:

a) 4 467 450 to the nearest thousands.

b) 8855 to the nearest tens.

c) 366 to the nearest tens.

d) 4 231 171 to the nearest ten-thousands.

e) 1770 to the nearest tens.

f) 3 242 590 to the nearest ten-thousands.

5 Find out the quotient and the remainder of the following divisions:

a)  $7 \overline{)815}$

b)  $6 \overline{)482}$

c)  $7 \overline{)9501}$

d)  $3 \overline{)8072}$

e)  $8 \overline{)2495}$

f)  $6 \overline{)982}$

6 Find out the quotient and the remainder of the following divisions:

a)  $67 \overline{)2094}$

b)  $76 \overline{)7923}$

c)  $62 \overline{)8243}$

d)  $81 \overline{)95901}$

e)  $94 \overline{)3745}$

f)  $13 \overline{)2185}$

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**7** Calculate these expressions:

a)  $4882 \cdot 97$

b)  $80 \cdot 9330$

c)  $267 \cdot 195$

d)  $445 \cdot 518$

e)  $6557 \cdot 73$

f)  $626 \cdot 936$

**8** Calculate the least common multiple and the greatest common measure (lcm and gcm) of the following numbers:

a) 896, 90

b) 720, 630

c) 720, 405

d) 504, 675

e) 320, 270

f) 672, 600

**9** Determine the prime factorization of the following numbers:

a) 31

b) 41

c) 49

d) 1100

e) 312

f) 875

**10** Write the following powers as repeated multiplications:

a)  $18^5$

b)  $7^5$

c)  $8^5$

d)  $23^3$

e)  $13^4$

f)  $2^5$

**11** Write the following expanded numbers in standard (normal) notation:

a)  $9 \cdot 10^5 + 7 \cdot 10^4 + 5 \cdot 10^3 + 1 \cdot 10^2 + 2 \cdot 10 + 5$

b)  $7 \cdot 10^4 + 9 \cdot 10^3 + 4 \cdot 10^2 + 4 \cdot 10$

c)  $3 \cdot 10^5 + 9 \cdot 10^4 + 6 \cdot 10^2 + 5 \cdot 10 + 6$

d)  $1 \cdot 10^5 + 2 \cdot 10^4 + 8 \cdot 10^3 + 1 \cdot 10^2 + 1 \cdot 10 + 1$

e)  $7 \cdot 10^5 + 1 \cdot 10^4 + 7 \cdot 10^3 + 2 \cdot 10^2 + 4 \cdot 10 + 9$

f)  $7 \cdot 10^4 + 8 \cdot 10^2 + 8 \cdot 10 + 8$

**12** Write in the missing number:

a)  $5 \cdot \square = 35$

b)  $3 \cdot 3 = \square$

c)  $\square \cdot 6 = 18$

d)  $5 \cdot \square = 25$

e)  $9 \cdot 7 = \square$

f)  $\square \cdot 3 = 15$

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**Answers:**

- 1**      a) 996                      b) 8397                      c) 6987                      d) 5708  
           e) 5895                      f) 211
- 2**      a) { 1, 2, 3, 4, 6, 8, 12, 16, 24, 48 }. 48 is composite.  
           b) { 1, 2, 3, 5, 6, 10, 15, 30 }. 30 is composite.  
           c) { 1, 3, 11, 33 }. 33 is composite.  
           d) { 1, 2, 3, 4, 6, 9, 12, 18, 36 }. 36 is composite.  
           e) { 1, 3, 13, 39 }. 39 is composite.  
           f) { 1, 3, 23, 69 }. 69 is composite.
- 3**      a)  $14^6$                       b)  $13^3$                       c)  $13^5$                       d)  $15^4$   
           e)  $29^4$                       f)  $25^5$
- 4**      a) 4 467 000                      b) 8860                      c) 370                      d) 4 230 000  
           e) 1770                      f) 3 240 000
- 5**      a)  $q = 116, r = 3$                       b)  $q = 80, r = 2$   
           c)  $q = 1357, r = 2$                       d)  $q = 2690, r = 2$   
           e)  $q = 311, r = 7$                       f)  $q = 163, r = 4$
- 6**      a)  $q = 31, r = 17$                       b)  $q = 104, r = 19$   
           c)  $q = 132, r = 59$                       d)  $q = 1183, r = 78$   
           e)  $q = 39, r = 79$                       f)  $q = 168, r = 1$
- 7**      a) 473 554                      b) 746 400                      c) 52 065  
           d) 230 510                      e) 478 661                      f) 585 936
- 8**      a) 40 320, 2                      b) 5040, 90                      c) 6480, 45                      d) 37 800, 9  
           e) 8640, 10                      f) 16 800, 24
- 9**      a)  $31 = 31$                       b)  $41 = 41$                       c)  $49 = 7^2$   
           d)  $1100 = 2^2 \cdot 5^2 \cdot 11$                       e)  $312 = 2^3 \cdot 3 \cdot 13$                       f)  $875 = 5^3 \cdot 7$
- 10**      a)  $18 \cdot 18 \cdot 18 \cdot 18 \cdot 18$                       b)  $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7$   
           c)  $8 \cdot 8 \cdot 8 \cdot 8 \cdot 8$                       d)  $23 \cdot 23 \cdot 23$   
           e)  $13 \cdot 13 \cdot 13 \cdot 13$                       f)  $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$
- 11**      a) 975 125                      b) 79 440                      c) 390 656                      d) 128 111  
           e) 717 249                      f) 70 888
- 12**      a)  $5 \cdot \boxed{7} = 35$                       b)  $3 \cdot 3 = \boxed{9}$                       c)  $\boxed{3} \cdot 6 = 18$   
           d)  $5 \cdot \boxed{5} = 25$                       e)  $9 \cdot 7 = \boxed{63}$                       f)  $\boxed{5} \cdot 3 = 15$