Warm up Grade 6

Date: _____

1) If Homer has 20 donuts and 30 cookies. He wants to place all of them in baskets so that each basket has the same number of donuts and cookies. What is the greatest number of baskets Homer can make?

Donuts 20

1 x 20
2 x 10
4 x 5

Cookies 30

1 x 30
2 x 15
3 x 10
5 x 6

10 baskets

2 donuts 3 cookies

The greatest # of baskets Homer can make is 10.

2) Write in standard form:

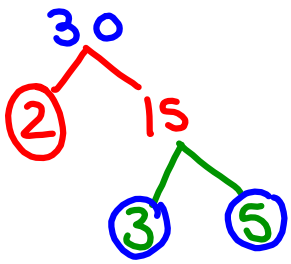
a. four hundred four billion two hundred thirty-one million five thousand ten

404 231 005 010

Tree

3) Write the PRIME factors of 30 (Show work)

Prime #⇒ 2, 3, 5, 7, 11, 13, 17, 23, 29, 31, ...



30
1 x 30
2 x 15
3 x 10
5 x 6

30 ⇒ 2 x 3 x 5

Prime factors of 30 are 2, 3, 5

pg 65
#5a,b,c,d
#6a,b,c,d
#8a, b
#9

Homework Solutions

#10ab
#12ai) ii

5. Draw a factor tree to find the factors of each number that are prime.

a) 64 — prime factor of 64 is 2

b) 85 — both prime

c) 90 — prime factors of 90 are 2, 3, 5

d) 76 — prime factors of 76 are 2, 19

6. Use division to find the factors of each number that are prime.

a) 18 — 2, 3, 3

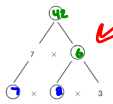
b) 35

c) 36 — 2 × 2 × 3 × 3 — Prime 2, 3

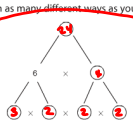
d) 50 — 2 × 5 × 5 — Prime 2, 5

8. Copy and complete each factor tree in as many different ways as you can.

a)



b)



Many answers

9. Patan uses a bead loom to make a bracelet. She wants to use all 84 beads, and to put the beads in rows of equal length. Patan also wants the number of beads in each row to be a factor of 84 that is a prime number. How many beads could Patan put in each row? Give as many answers as you can. Explain how you found the numbers.

Prime # are 2, 3, 7

84 → 2 × 42 → 2 × 2 × 21 → 2 × 2 × 3 × 7

10. Julia and Sandhu bought packages of granola bars. Each package has the same number of bars.
a) Julia and Sandhu each had a total of 12 bars. How many bars could there be in one package?
b) Suppose Julia had 24 bars and Sandhu had 18 bars. How many bars could there be in one package? Draw a picture to show your thinking.

a) J + S = 12

1 + 11
2 + 10
3 + 9
4 + 8
5 + 7
6 + 6 — only one that has each pack with same#
7 + 5
8 + 4
9 + 3
10 + 2
11 + 1

b) J ⇒ 24: 1×24, 2×12, 3×8, 4×6 — S ⇒ 18: 1×18, 2×9, 3×6

1, 2, 3 or 6

12. a) Draw 2 different factor trees for each number.
i) 56 ii) 32 iii) 90 iv) 75
b) Why is it possible to draw 2 different factor trees for each number in part a?
c) Name 2 composite numbers for which you can draw only one factor tree. Explain why this is so.
d) How many factor trees can you draw for the number 67? Explain.

12ai) 56 → 2 × 28 → 2 × 2 × 14 → 2 × 2 × 7 — 56 → 7 × 8 → 7 × 2 × 2 × 2

ii) 32 → 2 × 16 → 2 × 2 × 8 → 2 × 2 × 2 × 4 → 2 × 2 × 2 × 2 × 2 — 32 → 4 × 8 → 2 × 2 × 4 × 2 → 2 × 2 × 2 × 2 × 2

iii) 90 → 9 × 10 → 3 × 3 × 2 × 5 — 90 → 2 × 45 → 2 × 5 × 9 → 2 × 5 × 3 × 3

iv) 75 → 3 × 25 → 3 × 5 × 5 — 75 → 5 × 15 → 5 × 3 × 5

b) Each # in "a" has 4 or more factors, so I can use two different pairs of factors to start each tree.

c) 9, 15 ; each # has two prime #s as factors in addition to 1 and itself.

d) 67 is prime so cannot draw a tree → 1 × 67

Order of Operations

N9 Explain and apply the order of operations, excluding exponents, with and without technology (limited to whole numbers).

Definition:

Expression: is a math statement with numbers and operations (no equal sign)

5 + 3 = 8

BUT we can evaluate an expression to find an answer

Don't copy just listen

Which operation would you complete first?

10 + 8 x 3 - 5 = ?

Find answers in as many ways you can.

There is only one correct answer. It is 29

What strategy gives you this?

29

10 + 19

10 + 24 - 5

Let's try 3 different ways

10 + 8 x 3 - 5 = ? 49

18 x 3 Tally ⇒ - 5

54 - 5

49

Cal ⇒ 29

10 + 8 x 3 - 5 = ? 49

Logan

Cal ⇒ 29

10 + 8 x 3 - 5 = ?

Jaclyn 25

Cal ⇒ 25

Often to win contest, a person must answer a skill testing question. The skill testing question is most likely an order of operations question.

The purpose of the order of operations is to ensure that the same answer is reached regardless of who performs the calculations

Rules for Order of Operations

* Do the operations in brackets (we use brackets first if we want certain operations carried out first)
* **Multiply** and **divide**, in order from left to right
* Then **add** and **subtract**, in order, from left to right.

acronym

Brackets

~~Exponents~~ (grade 8)

Division

Multiplication

} Do what comes first in the expression

Addition

Subtraction

} Do what comes first in the expression

BEDMAS

( ) [ ]

PRIZE CLAIM FORM II - FOR CANADIAN RESIDENT PRIZE CLAIMANTS OF FOOD PRIZES, $100 TIM CARD

Please complete the following skill-testing question (print clearly):

11 + 2 x 10 ÷ 4 - 7

ANSWER: _____

$11 + 2 \times 10 \div 4 - 7$

$= 11 + 20 \div 4 - 7$

$= 11 + 5 - 7$

$= 16 - 7$

$= 9$