

BE-1B | MONDAY 11-13-06

① AHSGE Workbook

<u>PAGE</u>	<u>PROBLEM(S)</u>
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32	----- 4, 5
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33	----- 7
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51	----- 8
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② DEFINE perimeter AND area

③ Have wooden pencils, looseleaf,
textbook out for a "supply check"

①

Factors integers that can be multiplied together to get a number are factors of that number.

EX) $2 \cdot 10 = 20$

so 2, 10 are factors of 20
(so are 1, 4, 5, and 20)

Monomials have factors too. In general, whatever you multiply together to get each number or variable are factors of it.

EX) $x \cdot x = x^2$

so x is a factor of x^2

Prime numbers integers > 1 with only 1 and itself as factors EX) 17

Composite numbers integers > 1 with more than two factors. EX) 20

How to find all factors of a number without "guessing"

FUNDAMENTAL Theorem
OF
Arithmetic
(FTOA)

All numbers can
be written as
A product of primes!

PRIME
FACTORIZATION

$$\begin{array}{c}
 20 \\
 \swarrow \searrow \\
 4 \quad 5 \\
 \swarrow \searrow \\
 2 \cdot 2 \cdot 5 \quad \text{or} \quad 2^2 \cdot 5 \\
 \uparrow \uparrow \uparrow
 \end{array}$$

BESIDES 1 AND 20, TAKE ALL
possible products of 2, 2, 5
(while using all 3) AND YOU HAVE
ALL the factors

$$2, 2, 5 \Rightarrow (2 \cdot 2) \cdot 5 = 4, 5$$

$$2 \cdot (2 \cdot 5) = 2, 10$$

$$\therefore \boxed{1, 2, 4, 5, 10, 20}$$

Factors of 20

(3.)

P.F. OF A NEGATIVE $\Rightarrow$ ignore sign
AND ADD A -1 to final list of
prime factors: ex) P.F. OF -44

$$\begin{array}{c} 11 \\ 4 \end{array}$$

$$-1 \cdot 2 \cdot 2 \cdot 11$$

or

$$-1 \cdot 2^2 \cdot 11$$

Ch 9-1

Ex 2 Pg 475 P.F. OF 90

Ex 3 Pg 475 P.F. OF -140

Ex 1 Pg 474 P. or C? (A) 36 (B) 23

To factor a monomial completely,
list all of its prime factors AND
variable factors

Pg 476 (Ex) (A) $12a^2b^2$

$$\begin{array}{c} 12 \\ 3 \cdot 4 \\ 2 \cdot 2 \end{array}$$

$$2 \cdot 2 \cdot 3 \cdot a \cdot a \cdot b \cdot b$$

(B) $-66p^2q^2 \Rightarrow -1 \cdot 2 \cdot 3 \cdot 11 \cdot p \cdot p \cdot q \cdot q$

Practice: Pg 477 # 4-12

Homework: • Read Ch. 9-1

- Pg 478 # 32 to 36
 - Plus, find all the factors of # 32 to 36 & classify as Prime or composite.
 - Pg 478 # 40-43
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