Super Factors

Finding Factors

Sample

Find all the factors of 24. (1, 24) (2, 12) (3, 8) (4, 6) or (1, 2, 3, 4, 6, 8, 12, 24)

Directions: Study the Facts and Reminders page for this unit. Find all of the factors for each number listed below. Circle whether each number is *prime* or *composite*.

1. 12
factors: _____
prime or composite

2. 14
factors: _____
prime or composite

3. 28
factors: _____
prime or composite

4. 19
factors: _____
prime or composite

5. 35
factors: _____
prime or composite

6. 23
factors: _____
prime or composite

7. 22
factors: _____
prime or composite

8. 90
factors: _____
prime or composite

9. 72
factors: _____
prime or composite

10. 71
factors: _____
prime or composite

11. 84
factors: _____
prime or composite

12. 91
factors: _____
prime or composite

13. 81
factors: _____
prime or composite

14. 13
factors: _____
prime or composite

15. 100
factors: _____
prime or composite

16. 101
factors: _____
prime or composite

17. 144
factors: _____
prime or composite

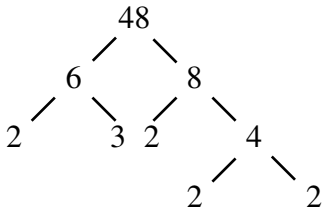
18. 300
factors: _____
prime or composite

19. 360
factors: _____
prime or composite

20. 288
factors: _____
prime or composite

Prime Factorization

Use a factor tree to find the prime factors of a number.



The prime factorization of 48 is $2 \times 3 \times 2 \times 2 \times 2$ or $2^4 \times 3$.

Directions: Carefully read the Facts and Reminders page for this unit. Use factor trees to find the prime factors of the numbers listed on this page. Use exponents to write the prime factorization of each number.

1. 18

prime factorization: _____

2. 24

prime factorization: _____

3. 36

prime factorization: _____

4. 28

prime factorization: _____

5. 60

prime factorization: _____

6. 72

prime factorization: _____

7. 144

prime factorization: _____

8. 108

prime factorization: _____

9. 432

prime factorization: _____

10. 999

prime factorization: _____

Super Factors

Literal and Numerical Factors

Directions: Study the Facts and Reminders page for this unit. Determine the literal factors and the numerical factors for each term listed below.

1. $4xyz$

numerical factors: _____

literal factors: _____

2. $5(3ab)$

numerical factors: _____

literal factors: _____

3. $5a(4bc)$

numerical factors: _____

literal factors: _____

4. $9(xyz)$

numerical factors: _____

literal factors: _____

5. $(3ad)(4bc)$

numerical factors: _____

literal factors: _____

6. $(17n)(12p)$

numerical factors: _____

literal factors: _____

7. $12(13yz)$

numerical factors: _____

literal factors: _____

8. $3(2ab)(4xy)(5z)$

numerical factors: _____

literal factors: _____

9. $(x)(3y)(4z)$

numerical factors: _____

literal factors: _____

10. $4(5a)(3b)$

numerical factors: _____

literal factors: _____

Directions: Name the numerical and literal coefficients for each term listed below. The first one is done for you. (A coefficient may have several factors.)

11. $4abc$

numerical coefficient: **4**

literal coefficient: ***abc***

12. $9xyz$

numerical coefficient: _____

literal coefficient: _____

13. $19xyz$

numerical coefficient: _____

literal coefficient: _____

14. $23abx$

numerical coefficient: _____

literal coefficient: _____

15. $26(ab)$

numerical coefficient: _____

literal coefficient: _____

16. $15(adn)$

numerical coefficient: _____

literal coefficient: _____

17. xy

numerical coefficient: _____

literal coefficient: _____

18. $(4)(abc)$

numerical coefficient: _____

literal coefficient: _____

Answer Key

Page 40

1. 20 m
2. 21 ft.
3. 85 cm
4. 120 yd.
5. 180 m
6. 126.4 cm
7. 25 m
8. 53.64 cm
9. 145.5 m
10. 114.75 in.

Page 41

1. 30 m
2. 70 ft.
3. 52 ft.
4. 45 cm
5. 40 m
6. 35 yd.
7. 27 m
8. 80 in.
9. 43 ft.
10. 16.42 m

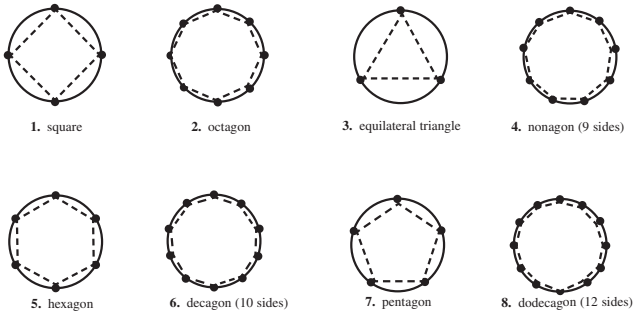
Page 42

1. 27 m
2. 34 ft.
3. 42 cm
4. 116 mm
5. 88 m
6. 46 cm
7. 46 m
8. 39 in.

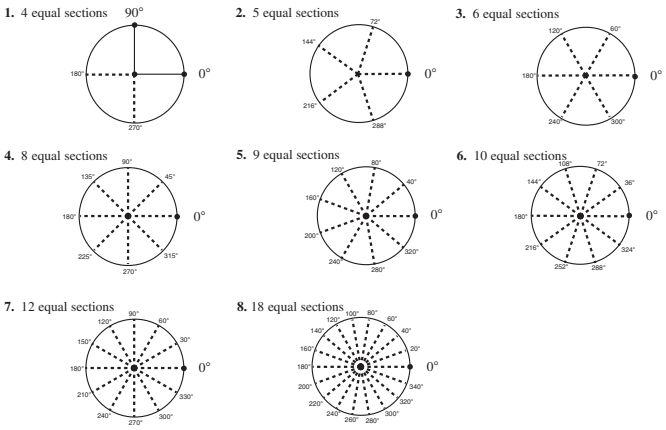
Page 44

1. 60°, 120°, 180°, 240°, 300°
2. 30°, 60°, 90°, 120°, 150°, 180°, 210°, 240°, 270°, 300°, 330°
3. 45°, 90°, 135°, 180°, 225°, 270°, 315°
4. 72°, 144°, 216°, 288°
5. 180°
6. 120°, 240°
7. 90°, 180°, 270°
8. 36°, 72°, 108°, 144°, 180°, 216°, 252°, 288°, 324°

Page 45



Page 46



Page 48

Answers will vary.

Page 49

Answers will vary.

Page 50

Answers will vary.

Page 52

1. 1, 2, 3, 4, 6, 12; composite
2. 1, 2, 7, 14; composite
3. 1, 2, 4, 7, 14, 28; composite
4. 1, 19; prime
5. 1, 5, 7, 35; composite
6. 1, 23; prime
7. 1, 2, 11, 22; composite
8. 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90; composite
9. 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72; composite
10. 1, 71; prime
11. 1, 2, 4, 6, 7, 12, 14, 21, 42, 84; composite
12. 1, 7, 13, 91; composite
13. 1, 3, 9, 27, 81; composite
14. 1, 13; prime
15. 1, 2, 4, 5, 10, 20, 25, 50, 100; composite
16. 1, 101; prime
17. 1, 2, 3, 4, 6, 8, 12, 18, 24, 36, 48, 72, 144; composite
18. 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 25, 30, 50, 60, 75, 100, 150, 300; composite
19. 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 18, 20, 24, 30, 36, 40, 45, 60, 72, 90, 120, 180, 360; composite
20. 1, 2, 4, 6, 8, 9, 12, 16, 18, 24, 32, 36, 48, 72, 144, 288; composite

Page 53

1. 2×3^2
2. $2^3 \times 3$
3. $2^2 \times 3^2$
4. $2^2 \times 7$
5. $2^2 \times 3 \times 5$
6. $2^3 \times 3^2$
7. $2^4 \times 3^2$
8. $2^2 \times 3^3$
9. $2^4 \times 3^3$
10. $3^3 \times 37$

Page 54

1. 4; x, y, z
2. 5, 3; a, b
3. 5, 4; a, b, c
4. 9; x, y, z
5. 3, 4; a, d, b, c
6. 17, 12; n, p
7. 12, 13; y, z
8. 3, 2, 4, 5; a, b, x, y, z
9. 3, 4; x, y, z
10. 4, 5, 3; a, b
11. 4; abc
12. 9; xyz
13. 19; xyz
14. 23; abx
15. 26; ab
16. 15; adn
17. 1; xy
18. 4; abc

Page 56

1. $R = 100/20$
   $R = 5$ m.p.h.
2. $R = 200/8$
   $R = 25$ m.p.h.
3. $R = 77/14$
   $R = 5.5$ m.p.h.
4. $R = 26.1/3$
   $R = 8.7$ m.p.h.
5. $R = 96/40$
   $R = 2.4$ m.p.h.
6. $R = 500/3.2$
   $R = 156.25$ m.p.h.
7. $R = 420/7.5$
   $R = 56$ m.p.h.
8. $R = 24.3/9$
   $R = 2.7$ m.p.h.