TEST BANK
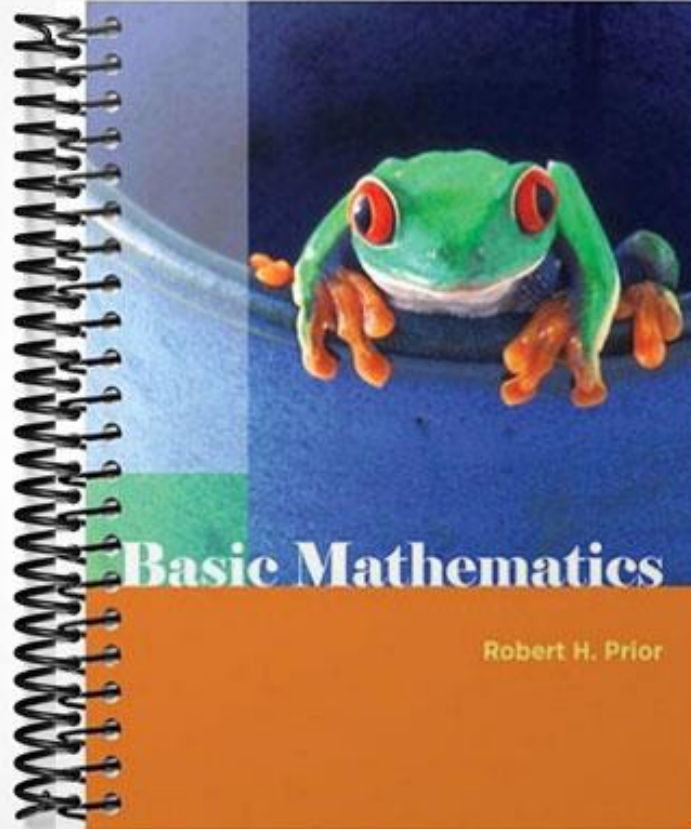
Basic Mathematics

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Expand each notation and find its value.

1. 4^3 1. _____

2. 30^2 2. _____

Rewrite the number as a product using a power of 10 as a factor.

3. 3,700   3. _____

4. 15,000   4. _____

Evaluate the following square roots.

5. $\sqrt{25}$ 5. _____

6. $\sqrt{64}$ 6. _____

Evaluate each expression according to the order of operations. Show all of your work.

7. $5 + 24 \div 3 \cdot 2$ 7. _____

8. $3^3 \cdot 2 - 2$ 8. _____

9. $4 \cdot (2+1)^2 \div (9-7)^2$ 9. _____

Find the equivalent temperature in Fahrenheit using this formula:

$$F = 9 \cdot \frac{C}{5} + 32$$

10. The temperature is 75ºC.   10. _____

Find the equivalent temperature in Celsius using this formula:

$$C = 5 \cdot \frac{F - 32}{9}$$

11. The temperature is 50ºF.   11. _____

Evaluate the numerical value of the formula with the given replacement values.

12. $A = (a + b + c) \div 4$ $a = 22, b = 8, c = 10$ 12. _____

Use one of the distance formulas to answer the following.

$$r = \frac{d}{t} \qquad t = \frac{d}{r} \qquad d = rt$$

13. If Spike averages 56 miles per hour riding his   13. _____
motorcycle 224 miles from Charleston to Charlotte,
how many hours will it take him to get there?

Of the following numbers, determine which are prime, which are composite, and which are neither.

14. 77, 59, 34, 17, 1   14. Prime: _____

Composite: _____

Neither: _____

Of the first three prime numbers 2, 3, and 5, which are factors of the following numbers?

15. 96   15. _____

16. 65   16. _____

17. 194   17. _____

18. 225   18. _____

Find the prime factorization of the following numbers using the division method. Write the answer in two ways, with and without exponents.

19. 60   19. _____

20. 144   20. _____

21. 360   21. _____

*Find the GCF of each pair of numbers. If the GCF is
1, write relative prime. You may use any method.*

22. 12 and 16   22. _____

23. 36 and 54   23. _____

24. 60 and 77   24. _____

25. 150 and 225   25. _____

Expand each notation and find its value.

1. 3^3

2. 60^2

1. _____

2. _____

Rewrite the number as a product using a power of 10 as a factor.

3. 4,500

4. 57,000

3. _____

4. _____

Evaluate the following square roots.

5. $\sqrt{36}$

6. $\sqrt{100}$

5. _____

6. _____

Evaluate each expression according to the order of operations. Show all of your work.

7. $6 + 32 \div 4 \cdot 2$

8. $2^3 \cdot 3 - 1$

9. $3 \cdot (1 + 2)^2 \div (5 - 2)^2$

7. _____

8. _____

9. _____

Find the equivalent temperature in Fahrenheit using this formula:

$$F = 9 \cdot \frac{C}{5} + 32$$

10. The temperature is 45°C.

10. _____

Find the equivalent temperature in Celsius using this formula:

$$C = 5 \cdot \frac{F - 32}{9}$$

11. The temperature is 59°F.

11. _____

Evaluate the numerical value of the formula with the given replacement values.

12. $A = (b + h) \div 2$ $b = 8,\ h = 10$

12. _____

Use one of the distance formulas to answer the following.

$$r = \frac{d}{t} \qquad t = \frac{d}{r} \qquad d = rt$$

13. If Jody averages 57 miles per hour driving 114 miles from Charleston to Hilton Head, how many hours will it take him to get there?

13. _____

Of the following numbers, determine which are prime, which are composite, and which are neither.

14.   72, 57, 31, 19, 1

14. Prime: _____

Composite: _____

Neither: _____

Of the first three prime numbers 2, 3, and 5, which are factors of the following numbers?

15.   75

15. _____

16.   84

16. _____

17.   267

17. _____

18.   216

18. _____

Find the prime factorization of the following numbers using the division method. Write the answer in two ways, with and without exponents.

19.   40

19. _____

20.   132

20. _____

21.   420

21. _____

Find the GCF of each pair of numbers. If the GCF is
1, write relative prime. You may use any method.

22.   14 and 35   22.   _____

23.   32 and 65   23.   _____

24.   60 and 75   24.   _____

25.   120 and 256   25.   _____

Expand each notation and find its value.

1. 6^3 1. _____

2. 15^2 2. _____

Rewrite the number as a product using a power of 10 as a factor.

3. 6,200   3. _____

4. 35,000   4. _____

Evaluate the following square roots.

5. $\sqrt{25}$ 5. _____

6. $\sqrt{144}$ 6. _____

Evaluate each expression according to the order of operations. Show all of your work.

7. $3+16 \div 4 \cdot 2$ 7. _____

8. $2^3 \cdot 4 - 3$ 8. _____

9. $2 \cdot (8-3)^2 \div (2+3)^2$ 9. _____

Find the equivalent temperature in Fahrenheit using this formula:

$$F = 9 \cdot \frac{C}{5} + 32$$

10. The temperature is 25°C.   10. _____

Find the equivalent temperature in Celsius using this formula:

$$C = 5 \cdot \frac{F-32}{9}$$

11. The temperature is 77°F.   11. _____

Evaluate the numerical value of the formula with the given replacement values.

12. $P = (\ell + w) \div 2$ $\ell = 12,\ w = 8$

12.   _____

Use one of the distance formulas to answer the following.

$$r = \frac{d}{t} \qquad t = \frac{d}{r} \qquad d = rt$$

13.   If Bud averages 59 miles per hour riding his motorcycle 177 miles from Myrtle Beach to Charlotte, how many hours will it take him to get there?

13.   _____

Of the following numbers, determine which are prime, which are composite, and which are neither.

14.   87, 48, 37, 29, 1

14.   Prime: _____

      Composite: _____

      Neither: _____

Of the first three prime numbers 2, 3, and 5, which are factors of the following numbers?

15.   45

15.   _____

16.   90

16.   _____

17.   105

17.   _____

18.   213

18.   _____

Find the prime factorization of the following numbers using the division method. Write the answer in two ways, with and without exponents.

19.   70

19.   _____

20.   124

20.   _____

21.   180

21.   _____

*Find the GCF of each pair of numbers. If the GCF is
1, write relative prime. You may use any method.*

22. 16 and 24   22. _____

23. 32 and 50   23. _____

24. 14 and 57   24. _____

25. 120 and 216   25. _____

Expand each notation and find its value.

1. 3^3

    (a) 6   (b) 9   (c) 18   (d) 27

2. 50^2

    (a) 100   (b) 250   (c) 2,500   (d) 5,000

1. _____

2. _____

Rewrite the number as a product using a power of 10 as a factor.

3. 800

    (a) $4 \cdot 200$ (b) $4 \cdot 10^2$ (c) $8 \cdot 10$ (d) $8 \cdot 10^2$

4. 12,000

    (a) $3 \cdot 20^2$ (b) $3 \cdot 20^3$ (c) $12 \cdot 10^3$ (d) $120 \cdot 10^2$

3. _____

4. _____

Evaluate the following square roots.

5. $\sqrt{64}$

    (a) 4   (b) 8   (c) 16   (d) 18

6. $\sqrt{196}$

    (a) 6   (b) 8   (c) 14   (d) 24

5. _____

6. _____

Evaluate each expression according to the order of operations.

7. $4 \cdot 6 - 6 \div 2$

    (a) 0   (b) 9   (c) 18   (d) 21

8. $5^2 \cdot 2^3$

    (a) 50   (b) 60   (c) 100   (d) 200

7. _____

8. _____

9. $12 - 3 \cdot (10 - 2) \div 6$ 9. _____

     (a)   7   (b)   8   (c)   9   (d)   12

Find the equivalent temperature in Fahrenheit using this formula:

$$F = 9 \cdot \frac{C}{5} + 32$$

10. The temperature is 50ºC.   10. _____

     (a)   41ºF   (b)   42ºF   (c)   82ºF   (d)   122ºF

Find the equivalent temperature in Celsius using this formula:

$$C = 5 \cdot \frac{F - 32}{9}$$

11. The temperature is 50ºF.   11. _____

     (a)   10ºC   (b)   20ºC   (c)   52ºC   (d)   90ºC

Evaluate the numerical value of the formula with the given replacement values

12. $A = (c + d) \div 2$ $c = 6, d = 8$ 12. _____

     (a)   6   (b)   7   (c)   14   (d)   28

Use one of the distance formulas to answer the following.

$$r = \frac{d}{t} \qquad t = \frac{d}{r} \qquad d = rt$$

13. If Jessie averages 57 miles per hour riding his motorcycle 228 miles from   13. _____
     Charleston to Charlotte, how many hours will it take him to get there?

     (a)   2 hr   (b)   3 hr   (c)   4 hr   (d)   5 hr

Of the following numbers, determine which are composite.

14. 1, 21, 37, 56, 91   14. _____

     (a)   1, 37, 91   (b)   21, 56, 91   (c)   21, 37, 56   (d)   21, 37, 91

15.   Find all factors of 27.   15. _____

    (a)   1, 9, 27   (b)   1, 3, 9, 27   (c)   1, 3, 9, 18   (d)   3, 9, 27

16.   Find all factors of 35.   16. _____

    (a)   1, 5, 7   (b)   1, 5, 35   (c)   1, 5, 7, 35   (d)   5, 7, 35

17.   Find all factors of 39.   17. _____

    (a)   1, 3, 9   (b)   1, 39   (c)   1, 3, 39   (d)   1, 3, 13, 39

Find the prime factorization (without exponents) of the following numbers.

18.   40   18. _____

    (a)   prime   (b) $4 \cdot 10$ (c) $2 \cdot 2 \cdot 10$ (d) $2 \cdot 2 \cdot 2 \cdot 5$

19.   42   19. _____

    (a)   prime   (b) $6 \cdot 7$ (c) $2 \cdot 3 \cdot 7$ (d) $1 \cdot 42$

Find the prime factorization (with exponents) of the following numbers.

20.   32   20. _____

    (a) $2 \cdot 16$ (b) $4 \cdot 8$ (c) 2^4 (d) 2^5

21.   72   21. _____

    (a) $2^2 \cdot 3^2$ (b) $2^2 \cdot 3^3$ (c) $2^3 \cdot 3^2$ (d) $2^3 \cdot 3^3$

Find the GCF of each pair of numbers.

22.   6 and 9   22. _____

    (a)   3   (b)   18   (c)   36   (d)   54

23.   20 and 80   23. _____

    (a)   4   (b)   5   (c)   10   (d)   20

24.   72 and 96   24. _____

    (a)   8   (b)   9   (c)   12   (d)   24

25.   36 and 120   25. _____

    (a)   4   (b)   6   (c)   12   (d)   18

Chapter 2, Form E

Expand each notation and find its value.

1. 4^3

    (a) 12   (b) 16   (c) 48   (d) 64

    1. _____

2. 30^2

    (a) 60   (b) 600   (c) 900   (d) 9,000

    2. _____

Rewrite the number as a product using a power of 10 as a factor.

3. 600

    (a) $2 \cdot 300$ (b) $6 \cdot 10^2$ (c) $6 \cdot 10$ (d) $6 \cdot 10^2$

    3. _____

4. 8,000

    (a) $2 \cdot 20^2$ (b) $4 \cdot 20^3$ (c) $8 \cdot 10^3$ (d) $80 \cdot 10^3$

    4. _____

Evaluate the following square roots.

5. $\sqrt{36}$

    (a) 4   (b) 6   (c) 9   (d) 18

    5. _____

6. $\sqrt{144}$

    (a) 9   (b) 11   (c) 12   (d) 14

    6. _____

Evaluate each expression according to the order of operations.

7. $8^2 - 5^2 \div (9 - 4)$

    (a) 3   (b) 31   (c) 59   (d) 60

    7. _____

8. $5^2 \cdot 2^3 \cdot 7$

    (a) 420   (b) 1050   (c) 1280   (d) 1400

    8. _____

9. $20-(12\div4)\cdot2+5$ 9. _____

   (a) 9   (b)   18   (c)   19   (d)   39

Find the equivalent temperature in Fahrenheit using this formula:

$$F = 9\cdot\frac{C}{5}+32$$

10. The temperature is 25°C.   10. _____

   (a) 37°F   (b)   48°F   (c)   77°F   (d)   87°F

Find the equivalent temperature in Celsius using this formula:

$$C = 5\cdot\frac{F-32}{9}$$

11. The temperature is 86°F.   11. _____

   (a) 30°C   (b)   35°C   (c)   40°C   (d)   54°C

Evaluate the numerical value of the formula with the given replacement values

12. $A = (a+b+c)\div3$ $a = 4, b = 6, c = 8$ 12. _____

   (a) 6   (b)   8   (c)   12   (d)   18

Use one of the distance formulas to answer the following.

$$r = \frac{d}{t} \qquad t = \frac{d}{r} \qquad rt$$

13. If Jose averages 56 miles per hour riding his motorcycle 224 miles from   13. _____
    Charleston to Charlotte, how many hours will it take him to get there?

   (a) 2 hours   (b)   3 hours   (c)   4 hours   (d)   5 hours

Of the following numbers, determine which are composite.

14. 1, 19, 34, 77, 83   14. _____

   (a) 1, 34, 83   (b)   19, 77, 83   (c)   34, 77   (d)   34, 77, 83

15. Find all factors of 22.   15. _____

   (a) 1, 11, 22   (b) 2, 11, 22   (c) 1, 2, 11   (d) 1, 2, 11, 22

16. Find all factors of 34.   16. _____

   (a) 1, 2, 17, 34   (b) 1, 17, 34   (c) 2, 17, 34   (d) 1, 2, 17, 34

17. Find all factors of 57.   17. _____

   (a) 1, 3, 19   (b) 1, 3, 57   (c) 1, 3, 57   (d) 1, 3, 19, 57

Find the prime factorization (without exponents) of the following numbers.

18. 50   18. _____

   (a) prime   (b) $5 \cdot 10$ (c) $2 \cdot 5 \cdot 5$ (d) $2 \cdot 2 \cdot 5 \cdot 5$

19. 98   19. _____

   (a) prime   (b) $2 \cdot 49$ (c) $2 \cdot 2 \cdot 7$ (d) $2 \cdot 7 \cdot 7$

Find the prime factorization (with exponents) of the following numbers.

20. 24   20. _____

   (a) $2 \cdot 12$ (b) $3 \cdot 8$ (c) $2^2 \cdot 3$ (d) $2^3 \cdot 3$

21. 120   21. _____

   (a) $2^2 \cdot 30$ (b) $2^3 \cdot 15$ (c) $2^3 \cdot 3 \cdot 5$ (d) $2^2 \cdot 5 \cdot 6$

Find the GCF of each pair of numbers.

22. 8 and 10   22. _____

   (a) 2   (b) 4   (c) 40   (d) 80

23. 30 and 75   23. _____

   (a) 5   (b) 15   (c) 30   (d) 450

24. 34 and 102   24. _____

   (a) 17   (b) 34   (c) 51   (d) 102

25. 16 and 40   25. _____

   (a) 4   (b) 8   (c) 16   (d) 80