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Chapter 1.1 Bringing It All Together

(Powers & Exponents, Squares and Square Roots, Order of Operations)

Vocabulary Check

Define the following vocabulary words:

1) Evaluate: _____

2) Exponent: _____

State whether the statement is *true* or *false*.
If *false*, replace the underlined word or number to make a true sentence.

3) Two or more numbers that are multiplied together are called <u>powers</u>. _____

4) The product of a number and itself is the <u>square root</u> of the number. _____

5) Mathematicians agreed on an <u>order of operations</u> so that numerical expressions would have only one value. _____

1-1 A Plan for Problem Solving (pp. 25-29)

Underline the correct term to complete each sentence.

6) The (*Plan, Solve*) step is the step of the four-step plan in which you decide which strategy you will use to solve the problem.

7) According to the four-step plan, if your answer is not correct, you should (*estimate the answer, make a new plan and start again*).

8) Once you solve a problem, make sure your solution contains any appropriate (*strategies, units or labels*).

Use the four-step plan to solve each problem.

9) When Tamik calls home from college, she talks ten minutes per call for 3 calls each week. How many minutes does she use in a 15-week semester?

10) Alan was paid $9 per hour and earned $128.25. How many hours did he work?

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1-3 Squares and Square Roots (pp. 34-37)

Find the square of each number.

11) 4 _____ 12) 13 _____

13) 16 _____ 14) 28 _____

Find each square root.

15) $\sqrt{81}$_____ 16) $\sqrt{324}$ _____

17) $\sqrt{121}$ _____ 18) $\sqrt{484}$ _____

19) The area of a certain kind of ceramic tile is 25 square inches.
What is the length of one side? _____

1-4 Order of Operations (pp. 38-41)

Evaluate each expression. Show your work ☺

20) $24 - 8 + 3^2$ 21) $9 + 18 \div 6$

22) $9 + 3(7 - 5)^3$ 23) $15 + 9 \div 3 - 7$

24) $48 \div 6 + 2 \times 5$ 25) $8 + 2(9 - 5) - (2 \times 3)$

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26) $2^3 - 6 \div 3 + 3^2$

27) $2(7 - 3) \div 2^2$

28) $(2 + 10) \div 4 + 2^2$

29) $24 - 8 + 4^2 \div 2^3$

30) $22 + 3(8 - 2)^3 + 12 \div 4$

31) $(4 + 3)^2 \div (5 + 2) + 5^2$

32) $5 \cdot 3^2 - 7 + 4$

33) $10^2 \div 10 \times 5 + 1^3 - 4^2$

34) $25 - (3^2 + 2 \times 5)$

35) $3 + (24 \div 2^3 \cdot 7) - 2^2 \cdot 5$

FINALLY DONE

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Chapter 1.1 Answer Key B.I.T

(Powers & Exponents, Squares and Square Roots, Order of Operations)

Vocabulary Check

Define the following vocabulary words:

1) Evaluate: **To find the value / to solve / work it out**

2) Exponent: **Tells how many times the base is used as a factor**

State whether the statement is *true* or *false*.
If *false*, replace the underlined word or number to make a true sentence.

3) Two or more numbers that are multiplied together are called powers.
false; factors

4) The product of a number and itself is the square root of the number.
false; square

5) Mathematicians agreed on an order of operations so that numerical expressions would have only one value. **true**

1-1 A Plan for Problem Solving (pp. 25-29)

Underline the correct term to complete each sentence.

6) The (***Plan***, *Solve*) step is the step of the four-step plan in which you decide which strategy you will use to solve the problem.

7) According to the four-step plan, if your answer is not correct, you should (*estimate the answer*, ***make a new plan and start again***).

8) Once you solve a problem, make sure your solution contains any appropriate (*strategies*, ***units or labels***).

Use the four-step plan to solve each problem.

9) When Tamik calls home from college, she talks ten minutes per call for 3 calls each week. How many minutes does she use in a 15-week semester? **450 min**

10) Alan was paid $9 per hour and earned $128.25. How many hours did he work?
14.25 hours or $14\frac{1}{4}$ hours

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1-3 Squares and Square Roots (pp. 34-37)

Find the square of each number.

11) $4 = \mathbf{16}$

12) $13 = \mathbf{169}$

13) $16 = \mathbf{256}$

14) $28 = \mathbf{784}$

Find each square root.

15) $\sqrt{81} = \mathbf{9}$

16) $\sqrt{324} = \mathbf{18}$

17) $\sqrt{121} = \mathbf{11}$

18) $\sqrt{484} = \mathbf{22}$

19) The area of a certain kind of ceramic tile is 25 square inches. What is the length of one side? = **5 in**

1-4 Order of Operations (pp. 38-41)

Evaluate each expression. Show your work ☺

20) $24 - 8 + 3^2$

$24 - 8 + 9$

$16 + 9$

25

21) $9 + 18 \div 6$

$9 + 3$

12

22) $9 + 3(7 - 5)^3$

$9 + 3\,(2)^3$

$9 + 3\,(8)$

$9 + 24$

33

23) $15 + 9 \div 3 - 7$

$15 + 3 - 7$

$18 - 7$

11

24) $48 \div 6 + 2 \times 5$

$8 + 2 \times 5$

$8 + 10$

18

25) $8 + 2(9 - 5) - (2 \times 3)$

$8 + 2(4) - (2 \times 3)$

$8 + 2(4) - 6$

$8 + 8 - 6$

$16 - 6$

10

Name _____ Date _____ Pd_____

26) $2^3 - 6 \div 3 + 3^2$

$8 - 6 \div 3 + 3^2$

$8 - 6 \div 3 + 9$

$8 - 2 + 9$

$6 + 9$

15

27) $2(7 - 3) \div 2^2$

$2(4) \div 2^2$

$2(4) \div 4$

$8 \div 4$

2

28) $(2 + 10) \div 4 + 2^2$

$12 \div 4 + 2^2$

$12 \div 4 + 4$

$3 + 4$

7

29) $24 - 8 + 4^2 \div 2^3$

$24 - 8 + 16 \div 2^3$

$24 - 8 + 16 \div 8$

$24 - 8 + 2$

$16 + 2$

18

30) $22 + 3(8 - 2)^3 + 12 \div 4$

$22 + 3(6)^3 + 12 \div 4$

$22 + 3(216) + 12 \div 4$

$22 + 648 + 12 \div 4$

$22 + 648 + 3$

$670 + 3$

673

31) $(4 + 3)^2 \div (5 + 2) + 5^2$

$7^2 \div (5 + 2) + 5^2$

$7^2 \div 7 + 5^2$

$49 \div 7 + 5^2$

$49 \div 7 + 25$

$7 + 25$

32

32) $5 \cdot 3^2 - 7 + 4$

$5 \cdot 9 - 7 + 4$

$45 - 7 + 4$

$38 + 4$

42

33) $10^2 \div 10 \times 5 + 1^3 - 4^2$

$100 \div 10 \times 5 + 1^3 - 4^2$

$100 \div 10 \times 5 + 1 - 4^2$

$100 \div 10 \times 5 + 1 - 16$

$10 \times 5 + 1 - 16$

$50 + 1 - 16$

$51 - 16$

35

34) $25 - (3^2 + 2 \times 5)$

$25 - (9 + 2 \times 5)$

$25 - (9 + 10)$

$25 - 19$

6

35) $3 + (24 \div 2^3 \cdot 7) - 2^2 \cdot 5$

$3 + (24 \div 8 \cdot 7) - 2^2 \cdot 5$

$3 + (3 \cdot 7) - 2^2 \cdot 5$

$3 + 21 - 2^2 \cdot 5$

$3 + 21 - 4 \cdot 5$

$3 + 21 - 20$

$24 - 20$

4

FINALLY DONE