

Dino Pre-Algebra Adventure · Worksheet

Unit 1 · Integers & Absolute Value

Concept: Integers include ..., -2, -1, 0, 1, 2, ... — positive numbers, zero, and negative numbers. The absolute value $|a|$ is the distance of a from 0, so it's always 0 or more.

1. What is $|-7|$?

- ① 7
- ② -7
- ③ 0
- ④ 14

2. What is $-5 + 3$?

- ① -2
- ② 2
- ③ -8
- ④ 8

3. What is $-8 - (-3)$?

- ① -5
- ② -11
- ③ 5
- ④ 11

4. What is $(-4) \times (-6)$?

- ① 24
- ② -24
- ③ 10
- ④ -10

Unit 2 · Order of Operations

Concept: When evaluating an expression, work in this order: ① Parentheses ② Exponents ③ Multiplication/Division ④ Addition/Subtraction.

5. What is $3 + 4 \times 2$?

- ① 11
- ② 14
- ③ 10
- ④ 24

6. What is $(3 + 4) \times 2$?

- ① 14
- ② 11
- ③ 9
- ④ 21

7. What is $2 + 3^2 \times 2$?

- ① 20

- ② 16
- ③ 22
- ④ 11

8. What is $10 - 2 \times 3 + 4$?

- ① 8
- ② 16
- ③ 2
- ④ 14

Unit 3 · Fractions & Decimals

Concept: To add fractions, give them a common denominator. To divide fractions, flip the second fraction and multiply.

9. What is $1/2 + 1/3$?

- ① $5/6$
- ② $2/5$
- ③ $1/6$
- ④ $3/6$

10. What is $3/4 \times 2/3$?

- ① $1/2$
- ② $2/3$
- ③ $3/4$
- ④ $5/12$

11. What is $0.25 + 0.6$?

- ① 0.85
- ② 0.65
- ③ 0.75
- ④ 0.9

12. What is $2/5 \div 1/10$?

- ① 4
- ② 2
- ③ $1/4$
- ④ $1/2$

Unit 4 · Ratio & Proportion

Concept: A ratio $a:b$ can be written as the fraction a/b . When two ratios are equal, it's a proportion — and the cross products are equal.

13. If $3 : 4 = x : 12$, what is x ?

- ① 9
- ② 8
- ③ 16
- ④ 6

14. If 5 apples cost \$20, how much do 8 apples cost?

- ① \$32

- ② \$35
- ③ \$28
- ④ \$40

15. How do you write the ratio 2 : 5 as a fraction?

- ① $\frac{2}{5}$
- ② $\frac{5}{2}$
- ③ $\frac{2}{7}$
- ④ $\frac{5}{7}$

16. What is 6 : 9 written in simplest form?

- ① 2:3
- ② 3:2
- ③ 1:2
- ④ 3:4

Unit 5 · Simple Equations

Concept: To solve an equation, add, subtract, multiply, or divide the same value on both sides until x is alone.

17. If $x + 5 = 12$, what is x ?

- ① 7
- ② 17
- ③ 5
- ④ -7

18. If $2x = 14$, what is x ?

- ① 7
- ② 28
- ③ 12
- ④ 2

19. If $3x - 4 = 11$, what is x ?

- ① 5
- ② 15
- ③ 7
- ④ 4

20. If $x / 3 = 6$, what is x ?

- ① 18
- ② 2
- ③ 9
- ④ 3

Answer Key & Explanations

1. Answer ① (7)

Absolute value is the distance from 0, so the negative sign drops off, leaving 7. $|-7| = 7$

2. Answer ① (-2)

Starting at -5 and moving +3 lands on -2. $-5+3 = -2$

3. Answer ① (-5)

Subtracting a negative becomes adding. $-8-(-3) = -8+3 = -5$

4. Answer ① (24)

Negative $\times$ negative = positive, so $(-4)\times(-6) = 24$

5. Answer ① (11)

Multiply first: $4\times2=8$, then $3+8 = 11$

6. Answer ① (14)

Parentheses first: $3+4=7$, then $7\times2 = 14$

7. Answer ① (20)

Exponent first: $3^2=9$, multiply: $9\times2=18$, add: $2+18 = 20$

8. Answer ① (8)

Multiply first: $2\times3=6$, then left to right: $10-6+4 = 8$

9. Answer ① (5/6)

Common denominator 6: $3/6 + 2/6 = 5/6$

10. Answer ① (1/2)

Multiply numerators and denominators: $(3\times2)/(4\times3) = 6/12 = 1/2$

11. Answer ① (0.85)

Line up the decimal points and add: $0.25 + 0.60 = 0.85$

12. Answer ① (4)

Dividing means multiplying by the reciprocal: $2/5 \times 10/1 = 20/5 = 4$

13. Answer ① (9)

Cross-multiply: $3\times12 = 4\times x$, so $36 = 4x$, $x = 9$

14. Answer ① (\$32)

One apple costs $\$20\div5 = \4 , so 8 apples cost $\$4\times8 = \32

15. Answer ① (2/5)

A ratio $a:b$ becomes the fraction a/b , so $2:5 = 2/5$

16. Answer ① (2:3)

Divide both sides by the GCF, 3: $6\div3 : 9\div3 = 2:3$

17. Answer ① (7)

Subtract 5 from both sides: $x = 12-5 = 7$

18. Answer ① (7)

Divide both sides by 2: $x = 14\div2 = 7$

19. Answer ① (5)

Add 4 to both sides: $3x=15$, then divide by 3: $x = 5$

20. Answer ① (18)

Multiply both sides by 3: $x = 6\times3 = 18$