

MATH 01 - Arithmetic, Version D03

First test. Time allowed: one hour. Professor Luis Fernández

NAME: _____

INSTRUCTIONS: Solve the following 26 exercises. Each is worth 4 points. **You must show all your work** in order to receive any credit. This includes all **sums, long divisions**, etc.

1. Add: $143 + 121$

Solution:

$$\begin{array}{r} 143 \\ + 121 \\ \hline 264 \end{array}$$

2. Add: $6441 + 5232$

Solution:

$$\begin{array}{r} 6441 \\ + 5232 \\ \hline 11673 \end{array}$$

3. Subtract: $8543 - 5412$

Solution:

$$\begin{array}{r} 8543 \\ - 5412 \\ \hline 3131 \end{array}$$

4. Subtract: $543 - 385$

Solution:

$$\begin{array}{r} 543 \\ - 385 \\ \hline 158 \end{array}$$

5. Multiply: 43×32

Solution:

$$\begin{array}{r} 43 \\ \times 32 \\ \hline 86 \\ 129 \\ \hline 1376 \end{array}$$

6. Multiply: 342×201

Solution:

$$\begin{array}{r} 342 \\ \times 201 \\ \hline 342 \\ 684 \\ \hline 68742 \end{array}$$

7. Divide, finding the quotient and remainder:

$$67 \div 8$$

Solution:

$$\begin{array}{r} 8 \\ 8 \overline{)67} \\ \underline{64} \\ 3 \end{array}$$

Quotient: 8. Remainder: 3.

8. Divide, finding the quotient and remainder:

$$854 \div 31$$

Solution:

$$\begin{array}{r} 27 \\ 31 \overline{)854} \\ \underline{620} \\ 234 \\ \underline{217} \\ 17 \end{array}$$

Quotient: 27. Remainder: 17.

9. Divide: $0 \div 16 =$ (circle the right answer below):

a) Undefined

b) 1

c) 0

d) 16

10. Divide: $32 \div 0 =$ (circle the right answer below):

a) 0

b) 32

c) 1

d) Undefined

11. Find the value of the following expression:

$$7 + 3 \times 4$$

Solution: $7 + 3 \times 4 = 7 + 12 = 19$

12. Find the value of the following expression:

$$3 \cdot 7 + 2 \cdot 5$$

Solution: $3 \cdot 7 + 2 \cdot 5 = 21 + 10 = 31$

13. Find the value of the following expression:

$$5 + (-6) - 5 - (-3) + 9$$

Solution: Change subtraction to addition of the opposite and proceed left to right:

$$\begin{aligned} 5 + (-6) - 5 - (-3) + 9 &= 5 + (-6) + (-5) + 3 + 9 \\ &= (-1) + (-5) + 3 + 9 \\ &= (-6) + 3 + 9 \\ &= (-3) + 9 = 6 \end{aligned}$$

14. Find the value of the following expression:

$$3 \times 2^2 - (7 + 3) \times 3 - (6 \div 2 + 1)$$

Solution:

$$\begin{aligned} 3 \times 2^2 - (7 + 3) \times 3 - (6 \div 2 + 1) \\ &= 3 \times 4 - 10 \times 3 - (3 + 1) \\ &= 12 - 30 - 4 \\ &= (-18) + (-4) \\ &= (-22) \end{aligned}$$

15. Add: $(-9) + 14$

Solution: $(-9) + 14 = 5$

16. Add: $(-9) + (-15)$

Solution: $(-9) + (-15) = (-24)$

17. Subtract: $(-7) - (-12)$

Solution: $(-7) - (-12) = (-7) + 12 = 5$

18. Subtract: $(-32) - 57$

Solution: $(-32) - 57 = (-32) + (-57) = (-89)$

19. Multiply: $(-5) \cdot (-7)$

Solution: $(-5) \cdot (-7) = 35$

20. Multiply: $(-36) \cdot 5$

Solution: $(-36) \cdot 5 = -180$

21. Divide: $(-12) \div (-4)$

Solution: $(-12) \div (-4) = 3$

22. Divide: $72 \div (-18)$

Solution: $72 \div (-18) = (-4)$

23. Find the value of $|-42|$

Solution: $|-42| = 42$

24. Find the value of $|4 - |-9||$

Solution: $|4 - |-9|| = |4 - 9| = |-5| = 5$

25. Evaluate $[15 \div (9 \div 3)]^2$

Solution: $[15 \div (9 \div 3)]^2 = [15 \div 3]^2 = [5]^2 = 25$

26. Find the value of $3 \cdot 4 \cdot 2 \div 4 + 3$

Solution: $3 \cdot 4 \cdot 2 \div 4 + 3 = 12 \cdot 2 \div 4 + 3 = 24 \div 4 + 3 = 6 + 3 = 9$