Merit Tutoring

Year 4 Mathematics

Division Facts Workshop

Worksheet 15: Fluency & Inverse Relationships

Name: _____ **Date:** _____

Section 1: Fluency - Rapid Recall

Complete these division facts as quickly and accurately as you can.

1.

$45 \div 5 = ?$

Answer: _____

2.

$72 \div 8 = ?$

Answer: _____

3.

$36 \div 4 = ?$

Answer: _____

4.

$63 \div 7 = ?$

Answer: _____

5.

$$54 \div 6 = ?$$

Answer: _____

6.

$$81 \div 9 = ?$$

Answer: _____

7.

$$48 \div 6 = ?$$

Answer: _____

8.

$$56 \div 7 = ?$$

Answer: _____

9.

$$42 \div 6 = ?$$

Answer: _____

10.

$$90 \div 10 = ?$$

Answer: _____

Division Detective!

Why did the dolphin do division?

Because it loved jumping through number hoops!

Section 2: Reasoning - Fact Families

Use the inverse relationship between multiplication and division.

11. If I know that

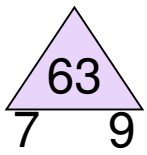
$$6 \times 8 = 48$$

, what two division facts do I also know?

Division fact 1: _____

Division fact 2: _____

12. Complete the fact family for these numbers: 7, 9, and 63



Multiplication 1: _____

Multiplication 2: _____

Division 1: _____

Division 2: _____

13. If

$$5 \times 9 = 45$$

, then

$$45 \div 5 = ?$$

Answer: _____

14. Complete: If

$$8 \times 7 = 56$$

, then

$$56 \div 7 = \ ?$$

Answer: _____

15. Use the multiplication

$$4 \times 9 = 36$$

to write two division facts:

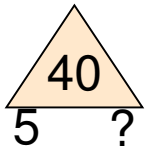
Division fact 1: _____

Division fact 2: _____

16. If I divide 72 by 9, I get 8. What multiplication fact proves this is correct?

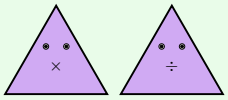
Answer: _____

17. Complete the fact family triangle:



Missing number: _____

Write one division fact: _____



Inverse Operation Champion!

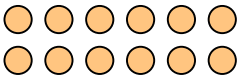
Why do multiplication and division work so well together?

Because they're best friends who always help each other out!

Section 3: Visual Modeling - Sharing into Groups

Use diagrams to understand division as fair sharing.

18. Look at these 12 circles. Circle them into 3 equal groups.



How many are in each group? _____

Write the division sentence: _____

19. Draw 20 stars and arrange them into 4 equal groups:

How many stars are in each group? _____

Division sentence: _____

20. Look at this grouping:

How many groups? _____

How many in each group? _____

Total stars: _____

Division sentence: _____

21. If 24 apples are shared equally between 6 baskets, draw a diagram showing how many apples go in each basket:

Answer: _____

22. A pizza is cut into 8 equal slices. If 4 children share the pizza equally, how many slices does each child get?

Answer: _____

Fair Share Expert!

Why did the pizza love division?

Because it meant more friends to share with!

Excellent work! You're mastering division facts!

Answer Key

Worksheet 15: Fluency & Inverse Relationships

Section 1: Fluency - Rapid Recall

1. Answer: **9**
2. Answer: **9**
3. Answer: **9**
4. Answer: **9**
5. Answer: **9**
6. Answer: **9**
7. Answer: **8**
8. Answer: **8**
9. Answer: **7**
10. Answer: **9**

Section 2: Reasoning - Fact Families

11. Division fact 1:

$$48 \div 6 = 8$$

Division fact 2:

$$48 \div 8 = 6$$

12. Multiplication 1:

$$7 \times 9 = 63$$

Multiplication 2:

$$9 \times 7 = 63$$

Division 1:

$$63 \div 7 = 9$$

Division 2:

$$63 \div 9 = 7$$

13. Answer: **9**

14. Answer: **8**

15. Division fact 1:

$$36 \div 4 = 9$$

Division fact 2:

$$36 \div 9 = 4$$

16. Answer:

$$9 \times 8 = 72$$

or

$$8 \times 9 = 72$$

17. Missing number: **8**

Division fact:

$$40 \div 5 = 8$$

or

$$40 \div 8 = 5$$

Section 3: Visual Modeling - Sharing into Groups

18. How many in each group? **4**
Division sentence:

$$12 \div 3 = 4$$

(Students should circle the 12 circles into 3 groups of 4)
19. Stars in each group: **5**
Division sentence:

$$20 \div 4 = 5$$

(Students should draw 20 stars arranged in 4 groups of 5)
20. How many groups? **3**
How many in each group? **5**
Total stars: **15**
Division sentence:

$$15 \div 3 = 5$$

21. Answer: **4 apples in each basket**
Working:

$$24 \div 6 = 4$$

(Students should draw 6 baskets with 4 apples in each)
22. Answer: **2 slices**
Working:

$$8 \div 4 = 2$$

Year 4 Mathematics

Division Facts Workshop

Worksheet 16: Mental Strategies & Problems

Name: _____ **Date:** _____

Section 1: Fluency - Dividing by 10 and 100

Develop efficient mental strategies for larger numbers.

Remember: When dividing by 10, move each digit one place to the right.

1. Calculate:

$$450 \div 10 = ?$$

Answer: _____

2. Calculate:

$$2{,}300 \div 100 = ?$$

Answer: _____

3. What do you notice about the zeros when dividing by 10 or 100?

Answer: _____

_____

4. Solve:

$$360 \div 10 = ?$$

Answer: _____

5. Solve:

$$800 \div 10 = \text{?}$$

Answer: _____

6. Calculate:

$$5{,}600 \div 100 = \text{?}$$

Answer: _____

7. Solve:

$$1{,}200 \div 10 = \text{?}$$

Answer: _____

8. Calculate:

$$7{,}000 \div 100 = \text{?}$$

Answer: _____

Powers of Ten Pro!

Why did the number 10 get an award?

Because it always made division easier!

Section 2: Problem Solving - Real-world Sharing

Apply division to solve practical problems.

9. A bag of 48 lollies is shared equally between 6 friends. How many lollies does each friend get?

Answer: _____

10. A teacher has 72 pencils to divide equally among 8 students. How many pencils does each student receive?

Answer: _____

11. There are 56 chairs to be arranged into 7 equal rows. How many chairs will be in each row?

Answer: _____

12. A farmer collects 63 eggs and puts them into cartons of 9. How many cartons does he need?

Answer: _____

13. If 45 students are divided into teams of 5, how many teams will there be?

Answer: _____

14. A box contains 64 chocolates arranged in 8 equal rows. How many chocolates are in each row?

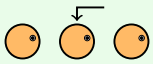
Answer: _____

15. A rope is 90 metres long. It is cut into 10 equal pieces. How long is each piece?

Answer: _____

16. If $42 is shared equally between 7 people, how much does each person get?$

Answer: _____



Word Problem Wizard!

Why was the belt arrested?

For holding up a pair of pants!

Section 3: Challenge - Halving Strategy

Use the halving strategy to divide by 2, 4, and 8.

Strategy Reminder: To divide by 4, halve the number and then halve it again.

17. Use the halving strategy to solve

$$64 \div 4$$

:

Step 1: Half of 64 = _____

Step 2: Half of that answer = _____

Final answer: _____

18. Use halving to solve

$$80 \div 4$$

:

Answer: _____

19. To divide by 8, you can halve three times. Use this to solve

$$96 \div 8$$

:

First half:

$$96 \div 2 = \_\_\_\_\_$$

Second half: _____

$$\div 2 = \_\_\_\_\_$$

Third half: _____

$$\div 2 = \_\_\_\_\_$$

Final answer: _____

20. Use the halving strategy to solve

$$48 \div 4$$

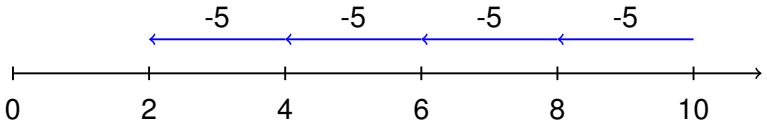
:

Answer: _____

21. Look at this number line showing repeated subtraction for

$$20 \div 5$$

:



How many jumps of 5 did we make? _____

So

$$20 \div 5 = \_\_\_\_\_$$

22. Use a halving strategy: If

$$100 \div 2 = 50$$

, what is

$$100 \div 4$$

?

Answer: _____

23. Challenge: Use any strategy to solve

$$72 \div 8$$

:

Answer: _____

Strategy used: _____

Strategy Superstar!

Why did the number love halving?

Because it made everything twice as easy!

Outstanding work! You're a division champion!

Answer Key

Worksheet 16: Mental Strategies & Problems

Section 1: Fluency - Dividing by 10 and 100

1. Answer: **45**

2. Answer: **23**

3. Answer: **When dividing by 10, one zero is removed (or digits move one place to the right). When dividing by 100, two zeros are removed (or digits move two places to the right).**

4. Answer: **36**

5. Answer: **80**

6. Answer: **56**

7. Answer: **120**

8. Answer: **70**

Section 2: Problem Solving - Real-world Sharing

9. Answer: **8 lollies**

Working:

$$48 \div 6 = 8$$

10. Answer: **9 pencils**

Working:

$$72 \div 8 = 9$$

11. Answer: **8 chairs**

Working:

$$56 \div 7 = 8$$

12. Answer: **7 cartons**

Working:

$$63 \div 9 = 7$$

13. Answer: **9 teams**
Working:

$$45 \div 5 = 9$$

14. Answer: **8 chocolates**
Working:

$$64 \div 8 = 8$$

15. Answer: **9 metres**
Working:

$$90 \div 10 = 9$$

16. Answer: **$6**
Working:

$$42 \div 7 = 6$$

Section 3: Challenge - Halving Strategy

17. Step 1: Half of 64 = **32**
Step 2: Half of 32 = **16**
Final answer: **16**
18. Answer: **20**
Working: Half of 80 = 40, half of 40 = 20
19. First half:

$$96 \div 2 = \mathbf{48}$$

Second half:

$$48 \div 2 = \mathbf{24}$$

Third half:

$$24 \div 2 = \mathbf{12}$$

Final answer: **12**

20. Answer: **12**

Working: Half of 48 = 24, half of 24 = 12

21. How many jumps? **4**

So

$$20 \div 5 = \mathbf{4}$$

22. Answer: **25**

Working: Half of 50 = 25

23. Answer: **9**

Strategy: **Accept various strategies: (1) using**

$$8 \times 9 = 72$$

; (2) halving three times: 72→36→18→9; (3) skip counting by 8s

Fantastic Achievement!

You've mastered division facts and strategies!

Keep practicing to build even more confidence!