

Heatherwood Mathletes  
Green and Orange Belt Home Exercises  
March 4, 2004

## Sample Missing Digits Worksheet

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Name \_\_\_\_\_



Date \_\_\_\_\_

Fill in the missing digits.

1.

$$\begin{array}{r} \phantom{0}7\boxed{\phantom{0}} \\ \times \boxed{\phantom{0}}9 \\ \hline \phantom{0}6\phantom{0}5\boxed{\phantom{0}} \\ + 5, \boxed{\phantom{0}}\boxed{\phantom{0}}0 \\ \hline 5, 767 \end{array}$$

2.

$$\begin{array}{r} \phantom{0}8 \\ \times 9\boxed{\phantom{0}} \\ \hline \phantom{0}2\boxed{\phantom{0}} \\ + 720 \\ \hline \boxed{\phantom{0}}\boxed{\phantom{0}}4 \end{array}$$

3.

$$\begin{array}{r} \boxed{\phantom{0}}\boxed{\phantom{0}} \\ \times 9 \\ \hline \phantom{0}75\boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}}\boxed{\phantom{0}}6 \end{array}$$

4.

$$\begin{array}{r} \boxed{\phantom{0}}5 \\ \times \boxed{\phantom{0}} \\ \hline \phantom{0}19\boxed{\phantom{0}} \\ \hline 190 \end{array}$$

5.

$$\begin{array}{r} 3\boxed{\phantom{0}} \\ \times 7 \\ \hline \phantom{0}2\boxed{\phantom{0}}\boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}}\boxed{\phantom{0}}5 \end{array}$$

6.

$$\begin{array}{r} \boxed{\phantom{0}}5 \\ \times \boxed{\phantom{0}} \\ \hline \phantom{0}5\boxed{\phantom{0}} \\ \hline 50 \end{array}$$

7.

$$\begin{array}{r} 2 \\ \times \boxed{\phantom{0}} \\ \hline \phantom{0}\boxed{\phantom{0}} \\ \hline 8 \end{array}$$

8.

$$\begin{array}{r} 28 \\ \times \boxed{\phantom{0}} \\ \hline \phantom{0}224 \\ \hline 22\boxed{\phantom{0}} \end{array}$$

9.

$$\begin{array}{r} \boxed{\phantom{0}}\boxed{\phantom{0}} \\ \times 6 \\ \hline \phantom{0}3\boxed{\phantom{0}}8 \\ \hline 3\boxed{\phantom{0}}8 \end{array}$$

10.

$$\begin{array}{r} \boxed{\phantom{0}}\boxed{\phantom{0}} \\ \times 15 \\ \hline \phantom{0}210 \\ + 4\boxed{\phantom{0}}\boxed{\phantom{0}} \end{array}$$

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Name \_\_\_\_\_



Date \_\_\_\_\_

**Fill in the missing digits.**

$$\begin{array}{r} 1. \quad 5 \square \\ - 30 \\ \hline \hline \square 0 \end{array}$$

$$\begin{array}{r} 2. \quad 86 \\ - 4\square \\ \hline \hline \square 6 \end{array}$$

$$\begin{array}{r} 3. \quad \square 1 \\ - 6\square \\ \hline \hline 29 \end{array}$$

$$\begin{array}{r} 4. \quad 6\square \\ - 29 \\ \hline \hline \square 0 \end{array}$$

$$\begin{array}{r} 5. \quad 61 \\ - \square 1 \\ \hline \hline 1\square \end{array}$$

$$\begin{array}{r} 6. \quad \square 2 \\ - 4\square \\ \hline \hline 37 \end{array}$$

$$\begin{array}{r} 7. \quad \square 6 \\ - 62 \\ \hline \hline 2\square \end{array}$$

$$\begin{array}{r} 8. \quad 80 \\ - 6\square \\ \hline \hline \square 9 \end{array}$$

$$\begin{array}{r} 9. \quad \square 1 \\ - 6\square \\ \hline \hline 11 \end{array}$$

$$\begin{array}{r} 10. \quad \square 9 \\ - 13 \\ \hline \hline 2\square \end{array}$$

$$\begin{array}{r} 11. \quad \square 2 \\ - 25 \\ \hline \hline 1\square \end{array}$$

$$\begin{array}{r} 12. \quad 77 \\ - \square\square \\ \hline \hline 63 \end{array}$$

$$\begin{array}{r} 13. \quad 3\square \\ - 10 \\ \hline \hline \square 6 \end{array}$$

$$\begin{array}{r} 14. \quad 72 \\ - \square\square \\ \hline \hline 18 \end{array}$$

$$\begin{array}{r} 15. \quad 9\square \\ - 58 \\ \hline \hline \square 7 \end{array}$$

16. 
$$\begin{array}{r} \square 8 \\ - 36 \\ \hline 1 \square \end{array}$$

17. 
$$\begin{array}{r} \square 7 \\ - 2 \square \\ \hline 43 \end{array}$$

18. 
$$\begin{array}{r} 64 \\ - \square 8 \\ \hline 2 \square \end{array}$$

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Name \_\_\_\_\_



Date \_\_\_\_\_

**Fill in the missing digits.**

$$\begin{array}{r} 1. \quad 55 \\ + 79 \\ \hline 1 \square \square \end{array}$$

$$\begin{array}{r} 2. \quad 9 \square \\ + \square 0 \\ \hline 131 \end{array}$$

$$\begin{array}{r} 3. \quad 21 \\ + 1 \square \\ \hline \square 7 \end{array}$$

$$\begin{array}{r} 4. \quad 9 \square \\ + 62 \\ \hline 1 \square 8 \end{array}$$

$$\begin{array}{r} 5. \quad 16 \\ + \square 5 \\ \hline 6 \square \end{array}$$

$$\begin{array}{r} 6. \quad \square 2 \\ + 9 \square \\ \hline \square 06 \end{array}$$

$$\begin{array}{r} 7. \quad \square 9 \\ + 75 \\ \hline 12 \square \end{array}$$

$$\begin{array}{r} 8. \quad 6 \square \\ + 81 \\ \hline 1 \square 7 \end{array}$$

$$\begin{array}{r} 9. \quad \square \square \\ + 38 \\ \hline 109 \end{array}$$

$$\begin{array}{r} 10. \quad 69 \\ + 1 \square \\ \hline \square 9 \end{array}$$

$$\begin{array}{r} 11. \quad 1 \square \\ + 49 \\ \hline \square 4 \end{array}$$

$$\begin{array}{r} 12. \quad 73 \\ + \square 9 \\ \hline 9 \square \end{array}$$

$$\begin{array}{r} 13. \quad 6 \square \\ + \square 3 \\ \hline \square 26 \end{array}$$

$$\begin{array}{r} 14. \quad \square 4 \\ + 4 \square \\ \hline 56 \end{array}$$

$$\begin{array}{r} 15. \quad 65 \\ + \square \square \\ \hline 77 \end{array}$$

16.

$$\begin{array}{r} 78 \\ + 76 \\ \hline 1 \square \square \end{array}$$

17.

$$\begin{array}{r} \square 3 \\ + 1 \square \\ \hline 53 \end{array}$$

18.

$$\begin{array}{r} \square 1 \\ + 5 \square \\ \hline 109 \end{array}$$

Name \_\_\_\_\_



Date \_\_\_\_\_

## Fractions

(Answer ID # 0820946)

**Add or subtract. Write the answer in simplest form.**

1. $\frac{2}{5} + \frac{3}{4}$	2. $\frac{8}{9} + \frac{4}{7}$	3. $\frac{1}{2} + \frac{6}{8}$
4. $\frac{2}{3} - \frac{1}{6}$	5. $\frac{1}{2} - \frac{3}{8}$	6. $\frac{5}{6} - \frac{2}{4}$
7. $\frac{17}{18} + \frac{6}{12}$	8. $\frac{1}{3} - \frac{3}{14}$	9. $\frac{2}{5} + \frac{6}{7}$
10. $\frac{1}{4} + \frac{9}{19}$	11. $\frac{4}{6} + \frac{1}{3}$	12. $\frac{10}{17} - \frac{6}{18}$
13. $\frac{2}{8} + \frac{1}{2}$	14. $\frac{3}{16} + \frac{9}{12}$	15. $\frac{7}{10} - \frac{5}{14}$
16. $\frac{4}{9} - \frac{2}{11}$	17. $\frac{5}{6} + \frac{6}{7}$	18. $\frac{12}{14} - \frac{1}{2}$
19. $\frac{2}{4} + \frac{1}{8}$	20. $\frac{8}{9} - \frac{1}{5}$	21. $\frac{6}{11} - \frac{5}{15}$
22. $\frac{1}{2} + \frac{4}{8}$	23. $\frac{5}{6} + \frac{2}{13}$	24. $\frac{1}{2} - \frac{2}{5}$

Name \_\_\_\_\_



Date \_\_\_\_\_

## Fractions

(Answer ID # 0742333)

**Multiply. Write the answer in simplest form.**

1. $\frac{2}{3} \cdot \frac{1}{7}$	2. $\frac{3}{6} \cdot \frac{4}{5}$	3. $\frac{6}{9} \cdot \frac{1}{2}$
4. $\frac{1}{4} \cdot \frac{3}{8}$	5. $\frac{2}{5} \cdot \frac{1}{2}$	6. $\frac{6}{7} \cdot \frac{3}{4}$
7. $\frac{10}{11} \cdot \frac{15}{18}$	8. $\frac{4}{6} \cdot \frac{7}{8}$	9. $\frac{1}{2} \cdot \frac{1}{8}$
10. $\frac{2}{17} \cdot \frac{2}{6}$	11. $\frac{7}{12} \cdot \frac{9}{11}$	12. $\frac{1}{3} \cdot \frac{8}{15}$
13. $\frac{16}{18} \cdot \frac{7}{9}$	14. $\frac{6}{14} \cdot \frac{2}{5}$	15. $\frac{1}{2} \cdot \frac{1}{4}$
16. $\frac{7}{9} \cdot \frac{1}{3}$	17. $\frac{5}{8} \cdot \frac{6}{7}$	18. $\frac{14}{16} \cdot \frac{3}{10}$
19. $\frac{15}{17} \cdot \frac{11}{15}$	20. $\frac{4}{6} \cdot \frac{2}{5}$	21. $\frac{1}{6} \cdot \frac{3}{8}$
22. $\frac{5}{19} \cdot \frac{2}{4}$	23. $\frac{6}{12} \cdot \frac{7}{10}$	24. $\frac{12}{18} \cdot \frac{13}{15}$

Name \_\_\_\_\_



Date \_\_\_\_\_

## Fractions

(Answer ID # 0897240)

**Divide. Write the answer in simplest form.**

1. $\frac{1}{2} \div \frac{5}{9}$	2. $\frac{2}{6} \div \frac{4}{5}$	3. $\frac{2}{4} \div \frac{1}{3}$
4. $\frac{5}{8} \div \frac{3}{7}$	5. $\frac{1}{2} \div \frac{4}{6}$	6. $\frac{6}{7} \div \frac{3}{4}$
7. $\frac{4}{12} \div \frac{14}{17}$	8. $\frac{1}{3} \div \frac{8}{9}$	9. $\frac{3}{4} \div \frac{2}{9}$
10. $\frac{6}{12} \div \frac{5}{19}$	11. $\frac{4}{15} \div \frac{14}{18}$	12. $\frac{4}{5} \div \frac{3}{13}$
13. $\frac{2}{6} \div \frac{1}{7}$	14. $\frac{5}{10} \div \frac{1}{2}$	15. $\frac{5}{8} \div \frac{2}{3}$
16. $\frac{1}{5} \div \frac{3}{9}$	17. $\frac{7}{14} \div \frac{4}{7}$	18. $\frac{1}{4} \div \frac{16}{18}$
19. $\frac{3}{10} \div \frac{8}{12}$	20. $\frac{4}{5} \div \frac{2}{8}$	21. $\frac{6}{15} \div \frac{1}{11}$
22. $\frac{10}{14} \div \frac{2}{3}$	23. $\frac{14}{18} \div \frac{3}{4}$	24. $\frac{1}{2} \div \frac{9}{19}$

## Algebra Practice Problems

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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**Worksheet generated at [www.math.com](http://www.math.com)**

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1.)  $x + 1 = 8$

2.)  $x + 8 = 11$

3.)  $x / 5 = 2$

4.)  $x + 2 = 11$

5.)  $5x + 2 = 47$

6.)  $10 + 4x = 58$

7.)  $5x + 8 = 48$

8.)  $7x + 4 = 18$

9.)  $8 + 7x + x = 80$

10.)  $5x + 1 + 4x = 55$

11.)  $32 = x + 2x + 2$

12.)  $6x + 7 + 7x = 20$

13.)  $2 + 7x = 2x + 7$

14.)  $5x + 10 = 2x + 34$

15.)  $3 + 2x = 4x - 17$

16.)  $4x + 5 = 14 + 3x$

17.)  $4(6x + 7) = 220$

18.)  $7(5x + 7) = 329$

19.)  $2(5 + 5x) = 20$

20.)  $5(3x + 3) = 165$

Name \_\_\_\_\_



Date \_\_\_\_\_

# Geometry

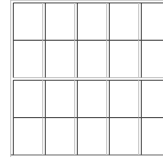
Level 6  
(Answer ID # 0966797)

Fill in the space by the correct answer.

1 Which letter has a line of symmetry?

- A K
- B F
- C N
- D R
- E G

2 What is the area of this figure?



- A 4 square units
- B 20 square units
- C 72 square units
- D 9 square units
- E 5 square units
- F 18 square units

3 Jane's house has a garden which is in the shape of a square. If each side of the garden is 19 feet then what is the perimeter of the garden?

- A 92 feet
- B 146 feet
- C 76 feet
- D 38 feet
- E 135 feet
- F 113 feet

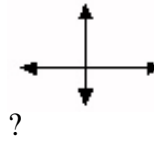
4 The diameter of a circle painted by Jill is 6 feet. What is the length of its radius?

- A 4.5 feet
- B 22 feet
- C 8.5 feet
- D 12 feet
- E 3 feet
- F 13 feet


5 A diagram included ten octagons, four circles, six decagons, six squares, and seven rays. How many polygons are in the diagram?

- A 16
- B 22
- C 6
- D 21
- E 23


6 Classify the following group of lines



- A Parallel
- B Perpendicular
- C Intersecting

7   
Name the polygon.

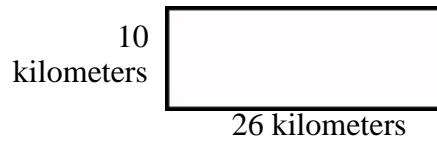
- A Decagon
- B Octagon
- C Triangle
- D Hexagon
- E Heptagon

8 

Name this figure.

- A Ray NU
- B Ray UN
- C line segment NU
- D line NU

- 9 What is the area of the following figure?



- A 72 square kilometers
- B 2 square kilometers
- C 841 square kilometers
- D 260 square kilometers
- E 319 square kilometers
- F 239 square kilometers

10

Classify the angle.

- A Acute
- B Right
- C Obtuse

- 11 Bill's bedroom is exactly 14 feet by 17 feet. If Bill wants to put a carpet on the floor, how much carpeting is needed?

- A 31 square feet
- B 915 square feet
- C 581 square feet
- D 238 square feet
- E 952 square feet
- F None of the above

- 12 When it is 1 o'clock, what type of angle is the smallest angle formed by the minute and hour hand?

- A Obtuse angle
- B Right angle
- C Acute angle

13 Jane measured an area of a square to be 49 ft. Brad measured one side of the square to be 7 ft. What is the perimeter of this square?

- A 14 ft
- B 56 ft
- C 21 ft
- D 20 ft
- E 43 ft
- F None of the above

14 Find the perimeter of a triangle if all of the sides equal 5 yd.

- A 15 yd
- B 25 yd
- C 30 yd
- D 35 yd
- E 50 yd
- F None of the above

15 A polygon has fourteen vertices. How many sides does the polygon have?

- A 11
- B 21
- C 15
- D 14
- E None of the above

16 How many of the following pairs of line intersect?



- A zero
- B one
- C two
- D three

17 What is the name of a polygon which has three sides?

- A Pentagon
- B Triangle
- C Quadrilateral
- D Heptagon
- E Hexagon
- F Octagon

18 The volume of a box is 300 cubic feet. What is the volume of a larger box whose dimensions are four times the size of each dimension for the smaller box?

- A 19200 cubic feet
- B 3432 cubic feet
- C 1848 cubic feet
- D 1200 cubic feet
- E 18210 cubic feet

19 What is the sum of the greatest number of degrees in an acute angle added to the greatest number of degrees in an obtuse angle?

- A 178
- B 268
- C 270
- D 180
- E 450
- F None of the above

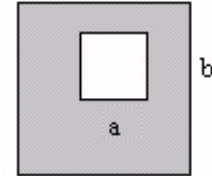
20 A box is 9 feet wide, 16 feet long, and 3 feet deep. What is its volume?

- A 86 cubic feet
- B 432 cubic feet
- C 28 cubic feet
- D 356 cubic feet
- E None of the above

21 An angle of  $20^\circ$  is ?

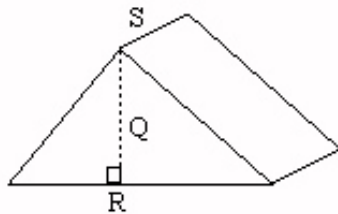
- (A) acute
- (B) decagon
- (C) right
- (D) obtuse
- (E) Intersecting
- (F) ray

22 If the length of a is eight kilometers and the length of b is forty-two kilometers for the given squares, what is the area in gray?



- (A) 1700 kilometers<sup>2</sup>
- (B) 2856 kilometers<sup>2</sup>
- (C) 64 kilometers<sup>2</sup>
- (D) 112896 kilometers<sup>2</sup>
- (E) 1828 kilometers<sup>2</sup>
- (F) 2920 kilometers<sup>2</sup>

23 What is the volume?



S = 25 yd  
Q = 14 yd  
R = 66 yd

\_\_\_\_\_

- (A) 31468 cubic yd
- (B) 5775 cubic yd
- (C) 10637 cubic yd
- (D) 31688 cubic yd

24 Amy's room is nine hundred eighteen square feet. Which of the following is the correct measurement of Amy's room?

- (A) 21 ft by 44 ft
- (B) 26 ft by 39 ft
- (C) 23 ft by 35 ft

- E 11550 cubic yd
- F 127050 cubic yd

- D 19 ft by 18 ft
- E 30 ft by 24 ft
- F 27 ft by 34 ft

25 What is the volume?

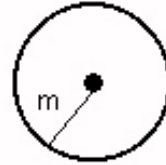


E = 6 cm  
D = 14 cm

\_\_\_\_\_

- A 2297.12 cubic cm
- B 3560.76 cubic cm
- C 723.87 cubic cm
- D 395.64 cubic cm
- E 2187.17 cubic cm
- F 39.56 cubic cm

26 What is the area?  
Round to the nearest hundredth.  
Assume  $\pi = 3.14$

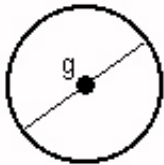


m = 29 yd

\_\_\_\_\_

- A 3524.39 yd squared
- B 7041.19 yd squared
- C 8154.55 yd squared
- D 2640.74 yd squared
- E 13203.7 yd squared
- F 240.07 yd squared

27 What is the circumference?  
Round to the nearest hundredth.  
Assume  $\pi = 3.14$

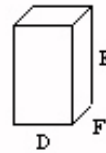


g = 50 mi

\_\_\_\_\_

- A 39.25 mi
- B 575 mi
- C 1381 mi
- D 1962.5 mi
- E 861 mi
- F 157 mi

28 What is the volume?



D = 31 cm  
E = 9 cm  
F = 7 cm

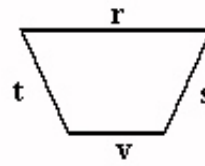
\_\_\_\_\_

- A 4008 cubic cm
- B 1953 cubic cm
- C 3239 cubic cm
- D 5315 cubic cm
- E 488.25 cubic cm
- F 3316 cubic cm

- 29 Albert has a plot of land to grow vegetables. The land measures fourteen yards by twenty yards. What is the area of the plot?

- (A)  $(3 \times 14 \text{ yd}) + (3 \times 20 \text{ yd}) =$   
Area  
 (B)  $(2 \times 14 \text{ yd}) + (2 \times 20 \text{ yd}) =$   
Area  
 (C)  $14 \text{ yd} \times 20 \text{ yd} =$  Area  
 (D)  $14 \text{ yd} + 20 \text{ yd} =$  Area  
 (E)  $(4 \times 14 \text{ yd}) + (4 \times 20 \text{ yd}) =$   
Area

30



$$\begin{aligned} v &= 5 \text{ m} \\ t &= 8 \text{ m} \\ r &= 11 \text{ m} \\ s &= t \end{aligned}$$

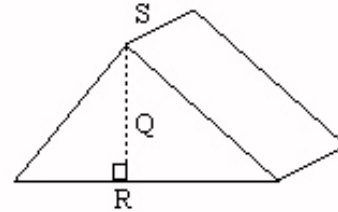
Find the perimeter.

- (A) 64 m  
 (B) 32 m  
 (C) 224 m  
 (D) 192 m  
 (E) 160 m  
 (F) 17 m

- 31 Which of these is an obtuse angle?

- (A)  $170^\circ$   
 (B)  $50^\circ$   
 (C)  $90^\circ$   
 (D) None of the above

- 32 How many faces does this figure have?



- (A) 3  
 (B) 6  
 (C) 5  
 (D) 7  
 (E) 8  
 (F) 4