

**1. Reference:** Level I Algebra 1 Chapter 2 Section 3

What is the value of  $\frac{1}{3}(10a + 2b)$  if  $a = 6$  and  $b = 3$ ?

**2. Reference:** Level I Algebra 1 Chapter 4 Section 3

What integer is equal to  $5(-8)$ ?

**3. Reference:** Level I Algebra 1 Chapter 4 Section 3

What integer can replace the empty box in  $-5(9 - 4w) + 8w = \square w - 45$ ?

**4. Reference:** Level I Algebra 1 Chapter 4 Section 4

What integer is equal to  $-60 \div (-15)$ ?

**5. Reference: Level C Chapter 2 Section 10**

Which is more 9 or 6?

**6. Reference: Level C Chapter 3 Section 17**

8 minus 5 equals  $\square$ .

What number replaces  $\square$ ?

**7. Reference: Level C Chapter 2 Section 10**

Which is less 8 or 7?

**8. Reference: Level D Chapter 1 Section 3**

**Question:**

There are 8 boys and 3 girls in a class.

There are  students in the class.

What number replaces ?

**9. Reference: Level C Chapter 15 Section 103**

By how much is 9 more than 5?

**10. Reference: Level C Chapter 3 Section 21**

**Question:**

What is the difference between 10 and 6?

**11. Reference: Level C Chapter 6 Section 47**

What is the sum of 5 and 9?

**12. Reference: Level E Chapter 5 Section 4**

How many students are  $\frac{1}{4}$  of 32 students?

**13. Reference: Level E Chapter 3 Section 3**

What number divided by 5 gives 8?

**14. Reference: Level F Chapter 3 Section 4**

Ben has 4 times as much money as May.  
If May has 6 dollars, Ben has  dollars.  
What number replaces  ?

**15. Reference: Level E Chapter 5 Section 4**

Pete had 18 birds. Jim took  $\frac{1}{3}$  of Pete's birds.  
Pete has  birds now.

What number replaces  ?

**16. Reference: Level E Chapter 5 Section 4**

What number is  $\frac{1}{5}$  of 25?

**17. Reference: Level C Chapter 14 Section 77**

Add:  $2 + 4 + 9$ .  
Give the final answer.

**18. Reference: Level D Chapter 4 Section 34**

Add:  $45 + 86$ .  
Give the final answer.

**19. Reference: Level D Chapter 5 Section 46**

Subtract:  $75 - 9$ .  
Give the final answer.

**20. Reference:** Level E Chapter 2 Section 1

Add:  $3,675 + 399$ .

Give the final answer.

**21. Reference:** Level E Chapter 2 Section 1

Subtract:  $1,472 - 583$ .

Give the final answer.

**22. Reference:** Level E Chapter 3 Section 1

Multiply:  $8 \times 9$ .

Give the final answer.

**23. Reference:** Level E Chapter 3 Section 3

Divide:  $32 \div 8$ .

Give the final answer.

**24. Reference:** Level E Chapter 3 Section 1

What number is 9 times 5?

**25. Reference:** Level E Chapter 3 Section 1

What number multiplied by 5 gives 30?

**26. Reference:** Level E Chapter 3 Section 3

28 pictures are equally divided into 4 albums. How many pictures are in each album?

**27. Reference:** Level E Chapter 5 Section 4

What number is half of 10?

**28. Reference:** Level F Chapter 3 Section 4

Susan places 10 doughnuts in a box.  
How many boxes are needed to place 90 doughnuts?

**29. Reference:** Level F Chapter 2 Section 4

What is the value of  $\square$  in the number sentence?

$$42 - 23 = \square + 9$$

**30. Reference:** Level F Chapter 5 Section 3

Give the quotient of  $3,600 \div 600$ .

**31. Reference:** Level F Chapter 4 Section 1

Multiply:  $523 \times 100$ .

Give the final answer.

**32. Reference: Level F Chapter 4 Section 3**

Multiply:  $325 \times 46$ .

Give the final answer.

**33. Reference: Level F Chapter 5 Section 1**

Give the quotient of  $340 \div 4$ .

**34. Reference: Level F Chapter 5 Section 1**

$4,306 \div 4 = \square R 2$

What number must replace  $\square$  ?

**35. Reference: Level G Chapter 7 Section 2**

What is the value of  $0.16 + 0.25$ ?

**36. Reference: Level G Chapter 7 Section 3**

What is the value of  $4.6 \times 3.2$ ?

**37. Reference: Level G Chapter 7 Section 4**

What is the value of  $36.54 \div 6$ ?

**38. Reference: Level G Chapter 7 Section 3**

What is the value of  $1.8 \times 10^2$ ?

**39. Reference: Level G Chapter 4 Section 4**

What is the GCF of 48 and 54?

**40. Reference: Level G Chapter 4 Section 4**

What is the LCM of 12 and 18?

**41. Reference: Level G Chapter 1 Section 3**

Simplify  $12 \times 3 - 35 \div 7$ .

**42. Reference: Level H Chapter 3 Section 6**

What whole number is equal to 35% of 300?

**43. Reference: Level H Chapter 4 Section 2**

If 5 pens cost \$4.50 then 4 pens cost  dollars.  
What number replaces ?

Give your answer to two decimal places.

**44. Reference: Level H Chapter 3 Section 6**

The fraction  $\frac{4}{5}$  expressed as a percentage is  %.  
What number replaces ?

**45. Reference: Level G Chapter 5 Section 1**

Compare  $\frac{3}{4}$  and  $\frac{7}{10}$ . Which is the greater fraction?

**46. Reference: Level G Chapter 2 Section 2**

Write  $\frac{24}{28}$  in lowest terms.



**47. Reference: Level G Chapter 5 Section 1**

Add:  $\frac{1}{6} + \frac{1}{4}$ .

Give your answer in lowest terms.

**48. Reference: Level G Chapter 5 Section 3**

Simplify  $\frac{6}{8} \times \frac{14}{12}$ .

**49. Reference: Level G Chapter 5 Section 6**

$\frac{8}{3}$  divided by  $\frac{4}{9} =$

**50. Reference: Level G Chapter 5 Section 1**

Order the following fractions from smallest to largest.

$\frac{1}{2}, \frac{3}{4}, \frac{2}{10}, \frac{4}{5}$

**51. Reference: Level H Chapter 3 Section 6**

Express 75% as a fraction in lowest terms.

**52. Reference: Level I Algebra 1 Chapter 4 Section 1**

What integer is equal to  $-2 + (-17)$ ?

**53. Reference: Level G Chapter 5 Section 1**

Subtract:  $\frac{4}{6} - \frac{1}{4}$ .

Give your answer in lowest terms.

**54. Reference: Level G Chapter 7 Section 2**

What is the value of  $72.36 - 31.47$ ?

**55. Reference: Level F Chapter 3 Section 1**

What is the value of  $\square$  in the number sentence?

$$36 \div \square = 9$$

1.

**Sample question answer:**  
**[Section 1]**

$$\frac{1}{3}(10a + 2b) = \frac{1}{3}(10(6) + 2(3)) = \frac{1}{3}(60 + 6) = \frac{1}{3}(66) = 22$$

**Answer: 22**

**2.**

**Sample question answer:**

**[Section 1]**

$$5(-8) = -(5 \times 8) = -40$$

**Answer: -40**

**3.**

**Sample question answer:**

**[Section 1]**

$$-5(9 - 4w) + 8w = -45 + 20w + 8w = -45 + 28w = 28w - 45$$

**Answer: 28**

**4.**

**Sample question answer:**

**[Section 1]**

$$-60 \div (-15) = 4$$

**Answer: 4**

**5. 9**

**6. 4**

**7. 7**

**8.**

**Solution:**

**$8 + 3 = 11$ . There are 11 students.**

**Answer: 11**

**9.9**

**10.**

**Solution:**

**$10 - 6 = 4$**

**Answer: 4**

**11.**

**Sample question answer:**

**[Section 1]**

**$5 + 9 = 14$**

**Answer: 14**

**12.**

**Sample question answer:**

**[Section 1]**

**$\frac{1}{4} \times 32 = 8$**

**Answer: 8**

**13.**

**Sample question answer:**

**[Section 1]**

**$\square \div 5 = 8$**

**$\square = 8 \times 5$**

**$\square = 40$**

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**Answer: 40**

**14.**

**Sample question answer:**

**[Section 1]**

**Ben has  $6 \times 4 = 24$  dollars.**

**Answer: 24**

**15.**

**Sample question answer:**

**[Section 1]**

**Jim took  $18 \div 3 = 6$  birds from Pete.**

**Pete now has  $18 - 6 = 12$  birds.**

**Answer: 12**

**16.**

**Sample question answer:**

**[Section 1]**

**$25 \div 5 = 5$**

**Answer: 5**

**17. 15**

**18.**

**Sample question answer:**

**[Section 1]**

**<sup>1</sup>  
  4 5  
+ 8 6  
-----  
1 3 1**

**Answer: 131.**

19.

**Sample question answer:**

[Section 1]

$$\begin{array}{r}
 6 \quad 15 \\
 \cancel{7} \quad \cancel{5} \\
 - \quad 9 \\
 \hline
 6 \quad 6
 \end{array}$$

**Answer: 66.**

20.

**Sample question answer:**

[Section 1]

$$\begin{array}{r}
 1 \quad 1 \quad 1 \\
 3 \quad 6 \quad 7 \quad 5 \\
 + \quad 3 \quad 9 \quad 9 \\
 \hline
 4 \quad 0 \quad 7 \quad 4
 \end{array}$$

**Answer: 4074**

21.

**Sample question answer:**

[Section 1]

$$\begin{array}{r}
 \begin{array}{cccc}
 0 & 13 & 16 & 12 \\
 \cancel{1} & \cancel{4} & \cancel{7} & \cancel{2} \\
 - & 5 & 8 & 3 \\
 \hline
 & 8 & 8 & 9
 \end{array}
 \end{array}$$

**Answer: 889**

**22.**

**Sample question answer:**

[Section 1]

$$8 \times 9 = 72$$

**Answer: 72**

**23.**

**Sample question answer:**

[Section 1]

$$32 \div 8 = 4$$

**Answer: 4**

**24.**

**Sample question answer:**

[Section 1]

$$9 \times 5 = 45$$

**Answer: 45**

**25.**

**Sample question answer:**

[Section 1]

$$\square \times 5 = 30$$

$$\square = 30 \div 5$$

$$\square = 6$$

**Answer: 6**

**26.**

**Sample question answer:**

**[Section 1]**

**There are  $28 \div 4 = 7$  pictures in each album.**

**Answer: 7**

**27.**

**Sample question answer:**

**[Section 1]**

$$10 \div 2 = 5$$

**Answer: 5**

**28.**

**Sample question answer:**

**[Section 1]**

$$90 \div 10 = 9 \text{ boxes}$$

**Answer: 9**

**29.**

**Sample question answer:**

**[Section 1]**

$$19 = \square + 9$$

$$\square = 10$$

**Answer: 10**

**30.**

**Sample question answer:**

**[Section 1]**

$$3,600 \div 600 = 6$$

**Answer: 6**



31.

**Sample question answer:**

[Section 1]

$$523 \times 100 = 52,300$$

**Answer: 52300**

32.

**Sample question answer:**

[Section 1]

$$\begin{array}{r} 325 \\ \times 46 \\ \hline 1950 \\ +13000 \\ \hline 14950 \end{array}$$

$$325 \times 46 = 14950$$

**Answer: 14950**

33.

**Sample question answer:**

[Section 1]

$$340 \div 4 = 85$$

**Answer: 85**

34. **Sample question answer:**

[Section 1]

$$\begin{array}{r} 1076 \\ 4 \overline{)4306} \\ \underline{4} \phantom{00} \\ 030 \phantom{0} \\ \underline{28} \phantom{0} \\ 26 \phantom{0} \\ \underline{24} \phantom{0} \\ 2 \phantom{0} \end{array}$$

$$4306 \div 4 = 1076 \text{ R}2$$

**Answer: 1076**

**35.**

**Sample question answer:**

**[Section 1]**

$$\begin{array}{r} 0.16 \\ +0.25 \\ \hline 0.41 \end{array}$$

**Answer: 0.41**

**36.**

**Sample question answer:**

**[Section 1]**

$$\begin{array}{r} 4.6 \\ \times 3.2 \\ \hline 92 \\ +1,380 \\ \hline 14.72 \end{array}$$

**Answer: 14.72**

**37.**

**Sample question answer:**

**[Section 1]**

$$\begin{array}{r} 6.09 \\ 6 \overline{) 36.54} \\ \underline{-36} \phantom{00} \\ 054 \\ \underline{-54} \\ 0 \end{array}$$

**Answer: 6.09**

**38.**

**Sample question answer:**

**[Section 1]**

$$1.8 \times 10^2 = 1.8 \times 100 = 180$$

**Answer: 180**

39.

**Sample question answer:**

[Section 1]

$$48 = 2^4 \times 3$$

$$54 = 2 \times 3^3$$

$$\text{GCF}(48, 54) = 2 \times 3 = 6$$

**Answer: 6**

40.

**Sample question answer:**

[Section 1]

$$12 = 2^2 \times 3$$

$$18 = 2 \times 3^2$$

$$\text{LCM}(12, 18) = 2^2 \times 3^2 = 36$$

**Answer: 36**

41.

**Sample question answer:**

[Section 1]

$$12 \times 3 - 35 \div 7 = 36 - 5 = 31$$

**Answer: 31**

42.

**Sample question answer:**

[Section 1]

$$\frac{35}{100} \times 300 = 105$$

**Answer: 105**

43.

**Sample question answer:**

[Section 1]

$$\square = \frac{4.50 \times 4}{5} = 3.60$$

**Answer: 3.60**

44.

**Sample question answer:**

[Section 1]

$$\frac{4}{5} = \frac{80}{100} = 80\%$$

**Answer: 80**

45.

**Sample question answer:**

[Section 1]

$$\frac{3 \times 5}{4 \times 5} = \frac{15}{20} \text{ and } \frac{7 \times 2}{10 \times 2} = \frac{14}{20}$$

$$\frac{15}{20} > \frac{14}{20} \text{ so } \frac{3}{4} > \frac{7}{10}$$

**Answer:  $\frac{3}{4}$**

46.

**Sample question answer:**

[Section 1]

$$\frac{24}{28} = \frac{24 \div 4}{28 \div 4} = \frac{6}{7}$$

Answer:  $\frac{6}{7}$

47.

**Sample question answer:**

[Section 1]

$$\frac{1}{6} + \frac{1}{4} = \frac{2}{12} + \frac{3}{12} = \frac{5}{12}$$

Answer:  $\frac{5}{12}$

48.

**Sample question answer:**

[Section 1]

$$\frac{\cancel{6}^1}{8} \times \frac{\cancel{14}^7}{\cancel{12}^2} = \frac{7}{8}$$

Answer:  $\frac{7}{8}$

49.

**Sample question answer:**

[Section 1]

$$\frac{8}{3} \div \frac{4}{9} = \frac{\cancel{8}^2}{\cancel{3}^1} \times \frac{\cancel{9}^3}{\cancel{4}^1} = \frac{6}{1} = 6$$

Answer: 6

50.

**Sample question answer:**

[Section 1]

$$\frac{1 \times 10}{2 \times 10}, \frac{3 \times 5}{4 \times 5}, \frac{2 \times 2}{10 \times 2}, \frac{4 \times 4}{5 \times 4}$$
$$\frac{10}{20}, \frac{15}{20}, \frac{4}{20}, \frac{16}{20}$$

Answer:  $\frac{2}{10}, \frac{1}{2}, \frac{3}{4}, \frac{4}{5}$

51.

**Sample question answer:**

[Section 1]

$$\frac{75}{100} = \frac{75 \div 5}{100 \div 5} = \frac{15 \div 5}{20 \div 5} = \frac{3}{4}$$

Answer:  $\frac{3}{4}$

52.

**Sample question answer:**

[Section 1]

$$-2 + (-17) = -2 - 17 = -(2 + 17) = -19$$

Answer: -19

53.

**Sample question answer:**

[Section 1]

$$\frac{4}{6} - \frac{1}{4} = \frac{8}{12} - \frac{3}{12} = \frac{5}{12}$$

Answer:  $\frac{5}{12}$

54.

**Sample question answer:**

[Section 1]

$$\begin{array}{r} 72.\overset{1}{\cancel{3}}\overset{12}{6} \\ -31.47 \\ \hline 40.89 \end{array}$$

Answer: 40.89

55.

**Sample question answer:**

[Section 1]

$$\square = 36 \div 9 = 4$$

Answer: 4