Name: _____ Date: _____

Equation Word Problems

Grades 6–8 • 24 questions • Choose a letter for the unknown, write an equation, solve it and check it in the story

1. A number plus 17 is 45. What is the number?

   Answer: _____

2. Five times a number is 85. What is the number?

   Answer: _____

3. A pizza is cut into equal slices. 4 friends get 3 slices each and nothing is left. How many slices were there?

   Answer: _____

4. Twice a number, plus 9, is 31. What is the number?

   Answer: _____

5. A plumber charges $40 plus $25 an hour. The bill is $140. How many hours did she work?

   Answer: _____

6. Tickets cost $8 each plus a $5 booking fee. The total is $45. How many tickets?

   Answer: _____

7. Mia has $12 and saves $5 a week. After how many weeks will she have $47?

   Answer: _____

8. A phone plan costs $15 a month plus $0.10 a text. One bill was $18.50. How many texts?

   Answer: _____

9. A square has a perimeter of 52 cm. How long is each side?

   Answer: _____

10. A rectangle is 3 times as long as it is wide. Its perimeter is 48 cm. Find its width and length.

    Answer: _____

11. The angles of a triangle are x, 2x and 3x. Find x. (The angles add to 180°.)

    Answer: _____

12. Two numbers in a row add to 45. What are they?

    Answer: _____

Name: _____ Date: _____

Equation Word Problems

Questions 13 to 24 • Ages, sharing, comparing plans and two-step stories

13. Three numbers in a row add to 72. What are they?

Answer: _____

14. Ali is 4 years older than Bea. Their ages add to 30. How old is each?

Answer: _____

15. A mother is 3 times as old as her son. Together they are 48. How old is each?

Answer: _____

16. $60 is shared so that Ben gets $10 more than Cal. How much does each get?

Answer: _____

17. Gym A costs $30 plus $10 a month. Gym B costs $20 a month. When do they cost the same?

Answer: _____

18. Sam has $50 and saves $3 a week. Lee has $30 and saves $5 a week. When will they have the same?

Answer: _____

19. A number doubled, minus 5, equals the number plus 7. What is the number?

Answer: _____

20. The temperature is −4°C and rises 3 degrees an hour. After how many hours is it 11°C?

Answer: _____

21. A shop sells pens for $2 and notebooks for $5. Ana buys 3 notebooks and some pens for $23. How many pens?

Answer: _____

22. A school sells adult tickets for $5 and child tickets for $2. 100 tickets bring in $320. How many adult tickets?

Answer: _____

23. Half of a number, plus 6, is 20. What is the number?

Answer: _____

24. Stretch: a number is multiplied by 4, then 3 is subtracted. The result is 5 more than twice the number. Find it.

Answer: _____

Answer Key — Equation Word Problems

1. $n + 17 = 45$, $n = 28$
2. $5n = 85$, $n = 17$
3. $s \div 4 = 3$, $s = 12$
4. $2n + 9 = 31$, $n = 11$
5. $40 + 25h = 140$, $h = 4$
6. $8t + 5 = 45$, $t = 5$
7. $12 + 5w = 47$, $w = 7$
8. $15 + 0.1t = 18.5$, $t = 35$
9. $4s = 52$, $s = 13$ cm
10. $8w = 48$: 6 cm by 18 cm
11. $6x = 180$, $x = 30°$
12. $n + n + 1 = 45$: 22 and 23
13. $3n + 3 = 72$: 23, 24, 25
14. $2b + 4 = 30$: Bea 13, Ali 17
15. $4s = 48$: son 12, mother 36
16. $2c + 10 = 60$: Cal \$25, Ben \$35
17. $30 + 10m = 20m$, $m = 3$ months
18. $50 + 3w = 30 + 5w$, $w = 10$ weeks
19. $2n - 5 = n + 7$, $n = 12$
20. $-4 + 3h = 11$, $h = 5$
21. $15 + 2p = 23$, $p = 4$
22. $5a + 2(100 - a) = 320$, $a = 40$
23. $n/2 + 6 = 20$, $n = 28$
24. $4n - 3 = 2n + 5$, $n = 4$