Name: KEY Class: _____ Date: _____ ID: B

Chapter 3 Practice Test

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Solve the equation.

D 1. $6(4.5y - 12) = 9$
a. 28 b. 3.3 c. $0.\overline{6}$ d. 3

C 2. $\frac{3x}{5} - 0.5 = 1.9$
a. 16 b. 0.16 c. 4 d. 2.3

D 3. $2x - 4 = 5x - 7$
a. 4 b. −1 c. 0 d. 1

C 4. Which equation is an identity?
a. $7y + 4 = 7y - 8$
b. $8 - (5v + 3) = -5v - 5$
c. $5w + 8 - w = 6w - 2(w - 4)$
d. $7m - 6 = 8m + 7 - m$

Solve the proportion.

A 5. $\frac{5}{3} = \frac{-16}{x}$
a. −9.6 b. −48 c. −26.7 d. −0.9

C 6. $\frac{(x-4)}{15} = \frac{4}{6}$
a. $\frac{53}{2}$ b. 10 c. 14 d. $\frac{32}{3}$

C 7. $\frac{(w+14)}{(4w+6)} = \frac{3}{4}$
a. $\frac{8}{19}$ b. $\frac{15}{28}$ c. $\frac{19}{4}$ d. $\frac{2}{7}$

Short Answer

Solve the equation.

8. answer: −10
9. answer: 18

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10. answer: 25 $x - 23 = 2$
$+23 \quad +23$
$x = 25$

11. answer: 6.43 $\left(\frac{9}{7}\right)\frac{7}{9}x = 5\left(\frac{9}{7}\right)$
$6\frac{3}{7}$ or $\frac{45}{7}$ $x = \frac{45}{7} = 6.43$

12. answer: −80 $-6 = \frac{x}{8} + 4$
$-4 \quad -4$
$(8)-10 = \frac{x}{8}(8)$
$-80 = x$

13. answer: 19.5 $\frac{2}{3}x - 9 = 4$
$+9 \quad +9$
$\left(\frac{3}{2}\right)\frac{2}{3}x = 13\left(\frac{3}{2}\right)$
$x = \frac{39}{2} = 19.5$
$\frac{39}{2}$

14. answer: −66 $(-5)12 = \frac{6 + (-6)}{-5}(-5)$
$-60 = 6 + z$
$-6 \quad -6$
$-66 = z$

15. answer: −16 $(-3)2 = \frac{10 + (-6)}{-3}(-3)$
$-6 = 10 + z$
$-10 \quad -10$
$-16 = z$

16. answer: 10 Solve the equation. $41 - 4 + 6w = 97$
$37 + 6w = 97$
$-37 \quad -37$
$\frac{6w}{6} = \frac{60}{6}$
$w = 10$

17. answer: −10 Solve the equation. $3.4 = -13.6 + (-3.4c) + 1.7c$
$3.4 = -13.6 - 1.7c$
$+13.6 \quad +13.6$
$\frac{17}{-1.7} = \frac{-1.7c}{-1.7}$
$c = -10$

18. answer: 3 Solve the equation. $4.4x + 3.7 = 16.9$
$-3.7 \quad -3.7$
$\frac{4.4x}{4.4} = \frac{13.2}{4.4}$
$x = 3$

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19. answer: 8 Solve the equation. $5(y + 7) = 75$

$5y + 35 = 75$
$-35 \quad -35$
$5y = 40$
$y = 8$

20. answer: -4 Solve the equation. $12 = -d + 8$

$-8 \quad -8$
$4 = -d$
$d = -4$

21. answer: -9 Solve the equation. $-6y + 14 + 4y = 32$

$-2y + 14 = 32$
$-14 \quad -14$
$-2y = 18$
$y = -9$

22. answer: 12 Solve the equation. $35 + 4 + 6q = 111$

$39 + 6q = 111$
$-39 \quad -39$
$6q = 72$
$q = 12$

23. answer: 14 Solve the equation. $-6y + 4 + 8y = 32$

$2y + 4 = 32$
$-4 \quad -4$
$2y = 28$
$y = 14$

24. answer: 3 Solve the equation. $2.7x + 4.3 = 12.4$

$-4.3 \quad -4.3$
$2.7x = 8.1$
$x = 3$

25. answer: 9 Solve the equation. $2(y + 3) = 24$

$2y + 6 = 24$
$-6 \quad -6$
$2y = 18$
$y = 9$

26. Solve the equation.

a = 9 $\frac{a}{7} - \frac{3}{7} = \frac{6}{7}$

$a - 3 = 6$
$+3 \quad +3$
$a = 9$

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27. Solve the equation.

$m =$ -26 $\quad \frac{4}{1} + \frac{m}{8} = \frac{3}{4}$

$\frac{4 \cdot 8}{1 \cdot 8} = \frac{32}{8}$ $\quad \frac{m \cdot 1}{8 \cdot 1} = \frac{1m}{8}$ $\quad \frac{3 \cdot 2}{4 \cdot 2} = \frac{6}{8}$

$\frac{32}{8} + \frac{1m}{8} = \frac{6}{8}$

$32 + 1m = 6$

$-32 \quad -32$

$m = -26$

28. Solve the equation.

$x =$ $\frac{3}{14}$ or 0.21 $\quad \frac{1}{2} + \frac{7x}{10} = \frac{13}{20}$

$\frac{1 \cdot 10}{2 \cdot 10} = \frac{10}{20}$ $\quad \frac{7x \cdot 2}{10 \cdot 2} = \frac{14x}{20}$ $\quad \frac{13 \cdot 1}{20 \cdot 1} = \frac{13}{20}$

$\frac{10}{20} + \frac{14x}{20} = \frac{13}{20}$

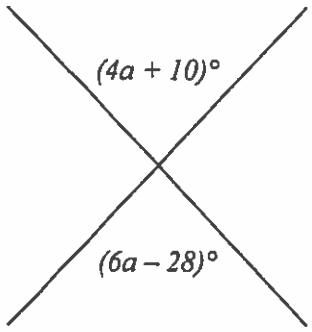
$10 + 14x = 13$

$-10 \quad -10$

$\frac{14x}{14} = \frac{3}{14}$

$x = \frac{3}{14}$

29. a. Find the value of a.



$4a + 10 = 6a - 28$

$-4a \quad -4a$

$10 = 2a - 38$

$+28 \quad +28$

$\frac{38}{2} = \frac{2a}{2}$

$a = 19$

30. The sum of two consecutive integers is 43. Write an equation that models this situation and find the values of the two integers.

Let x = 1st integer

$x + 1$ = 2nd "

$x + (x+1) = 43$

$2x + 1 = 43$

$-1 \quad -1$

$2x = 42$

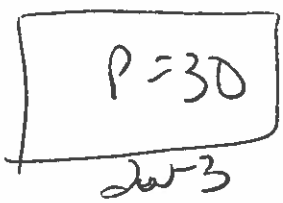
$x = 21$

21, 22

31. The length of a rectangle is 3 centimeters less than twice its width. The perimeter of the rectangle is 30 cm. What are the dimensions of the rectangle?

let w = width

$2w - 3$ = length



$2w + 2(2w-3) = 30$ or $(2w-3) + w + (2w-3) + w = 30$

$2w + 4w - 6 = 30$

$6w - 6 = 30$

$+6 \quad +6$

$\frac{6w}{6} = \frac{36}{6}$

$w = 6$ cm

$2(6) - 3 = 12 - 3 = 9$ cm

6 cm × 9 cm