

Chapter 6 Test, Form 3A

1. Susan is 5 years older than her sister. The sum of their ages is 51. Define a variable. Then write an equation that could be used to find their ages. **TEKS 8.8(C)**

$s = \text{Susan's age}; 2s - 5 = 51$

2. Two beakers plus their contents have a mass of 180.4 grams. The total mass of the contents is 56.8 grams. Write and solve an equation to find the mass of one beaker.

TEKS 8.8(C) $2b + 56.8 = 180.4; 61.8 \text{ g}$

3. At a concert, three T-shirts and a concert program cost a total of \$90. The program costs \$15 and the T-shirts all cost the same. Write and solve an equation to find the cost of one T-shirt. **TEKS 8.8(C)**

$3t + 15 = 90; \$25$

Solve each equation. Check your solution. **TEKS Preparation for 8.8(C)**

4. $6.75 + 4a = 18.75$ **3** 5. $1\frac{2}{3}m + 2 = 2\frac{1}{6}$ **$\frac{1}{10}$**

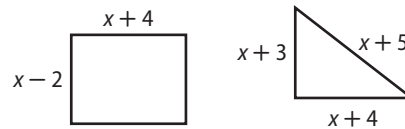
6. $-14.2 = -4.2g + 6.8$ **5** 7. $-1.4d - 0.35 = 0.07$ **-0.3**

8. An online movie streaming plan charges an annual fee of \$45 plus \$2.50 per movie watched. Another plan has no annual fee but charges \$3.75 per movie watched. For how many movies is the cost of the plans the same? **TEKS 8.8(C)**

36 movies

9. Find the value of x so that the polygons have the same perimeter. **TEKS 8.8(C)**

8



Solve each equation. Check your solution. **TEKS 8.8(C)**

10. $-3.6b - 7.2 = -12.7 - 6.1b$ **-2.2** 11. $\frac{3}{4}n = -1\frac{3}{4}n - 18$ **$-7\frac{1}{5}$**

12. $5(y - 2) - 2 = 2(y + 1) - 5$ **3** 13. $-4(p + 1) = 2(8 - 2p)$ **null set**

14. $4(x - 2) = 2(x - 4) + 2x$ **all real numbers**

15. The table shows the number of points scored by three players in last night's basketball game. If Gil and Darby scored the same number of points, how many points did Josiah score? **TEKS 8.8(C)** **12 points**

Player	Points
Josiah	x
Darby	$2x + 8$
Gil	$3x - 4$

16. The table shows the number of tulip bulbs Chloe and Grady planted. If they each planted the same number of bulbs, how many did each plant? **TEKS 8.8(C)**

15 bulbs

Name	Number of Bulbs
Chloe	$3(t + 1)$
Grady	$5(2t - 5)$

Chapter 6 Test, Form 3A *(continued)*

SCORE _____

17. Sarah and Bryan went shopping and spent a total of \$47.50. Bryan spent \$15.50 less than what Sarah spent. How much did Bryan spend? **TEKS 8.8(C)** \$16

Tony and some friends went to the movies. They bought 4 drinks and 2 tubs of popcorn and spent a total of \$32.50 on the food. Each drink costs \$3.50 less than a tub of popcorn. **TEKS 8.8(C)**

18. Define a variable. Write an equation that can be used to find the cost of one tub of popcorn. $p = \text{cost of popcorn}; 2p + 4(p - 3.50) = 32.50$

19. Solve the equation to find the cost of a tub of popcorn. \$7.75

20. Write a real-world problem for the inequality $15 + 0.75x \geq 0.80x$. **TEKS 8.8(B)**

Sample answer: Tennis balls cost \$0.75 each at Mac’s Club, which has an annual membership fee of \$15. At Tom’s Sports, the price is \$0.80 per ball. For how many balls would the total cost at Mac’s Club be greater than or equal to the cost at Tom’s Sports?

Use a problem-solving model to solve each problem.

21. The table shows the numbers of students in each eighth grade homeroom at Lincoln High. If the total number of students in Homerooms A and B are equal to the total number of students in Homerooms C and D, how many students are in Homeroom A? **TEKS 8.8(C)**

Homeroom	Number of Students
A	a
B	$4(a - 3)$
C	15
D	$2a + 9$

12 students

22. A fitness center introduces two membership plans. The first plan charges \$27 per month plus a \$22 enrollment fee. The second plan charges \$30 per month plus a \$10 enrollment fee. For what number of months is the first plan less expensive? Write an inequality and solve. **TEKS 8.8(C)**

$27m + 22 < 30m + 10$; the first plan is less expensive for more than 4 months.

23. The A1 Arts learning center charges a one-time fee of \$26 plus \$10 per piano lesson. The charges to learn to play guitar are a one-time fee of \$36 plus \$8 for each lesson. After how many lessons will the cost of learning to play piano be the same or more than learning the to play guitar? **TEKS 8.8(C)**

5 lessons

24. A class of 205 students went on a field trip. They took a combination of 9 cars and buses. Determine the number of cars and the number of buses they took if each car holds 5 students and each bus holds 45 students. **TEKS 8.9**

5 cars and 4 buses