



Topic 1 TEKS Cumulative Practice

Multiple Choice

Read each question. Then write the letter of the correct answer on your paper.

1. Belle surveyed her classmates in music class. The ratio of students who prefer playing string instruments to those who prefer wind instruments is 2 : 5. There are 28 students in Belle's class. How many students prefer playing string instruments?

- A. 5 C. 20
B. 8 D. 25

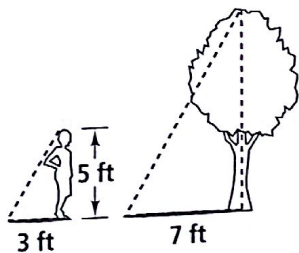
2. What is the solution of $-30c - 6 = -9c - 3$?

- F. -7 H. $\frac{3}{13}$
G. $-\frac{1}{7}$ J. $4\frac{1}{3}$

3. Jim uses 3 cups of peaches to yield 4 jars of peach jam. He also makes strawberry-peach jam. He uses equal amounts of strawberries and peaches. How many cups of strawberries does Jim need to yield 10 jars of strawberry-peach jam?

- A. $3\frac{3}{4}c$ C. $7\frac{1}{2}c$
B. $4\frac{1}{2}c$ D. $9c$

4. Use the diagram below, which shows similar triangles formed by the shadows of a person and a tree.



What is the approximate height of the tree?

- F. 4 ft H. 12 ft
G. 9 ft J. 105 ft

5. A stepped-out solution is shown below.

$$3(3x - 1) - 3(5x - 3) = 4$$

Step 1 $9x - 3 - 15x + 9 = 4$

Step 2 $-6x + 6 = 4$

Step 3 $-6x + 6 - 6 = 4 - 6$

Step 4 $-6x = -2$

Step 5 $\frac{-6x}{-6} = \frac{-2}{-6}$

Step 6 $x = \frac{1}{3}$

Which property justifies Step 1?

- A. Division Property of Equality
B. Subtraction Property of Equality
C. Commutative Property
D. Distributive Property

6. The perimeter P of a rectangle with length ℓ and width w can be represented by the equation $P = 2\ell + 2w$. Which expression represents the width in relation to the P and ℓ ?

- F. $P - 2\ell$ H. $\frac{1}{2}P - 2\ell$
G. $P - \ell$ J. $\frac{P - 2\ell}{2}$

7. What are the solutions of $2u + 5.2 \leq 9.4 + u$?

- A. $u \geq 4.2$ C. $u \leq 14.6$
B. $u \leq 48.9$ D. $u \leq 4.2$

8. What is the solution of $w - 4 = 18 + 3w$?

- F. -11 H. 3.5
G. -3.5 J. 11

9. What is the solution of $\frac{18}{x} = \frac{5}{7}$?

- A. 12.9 B. 20 C. 25.2 D. 35

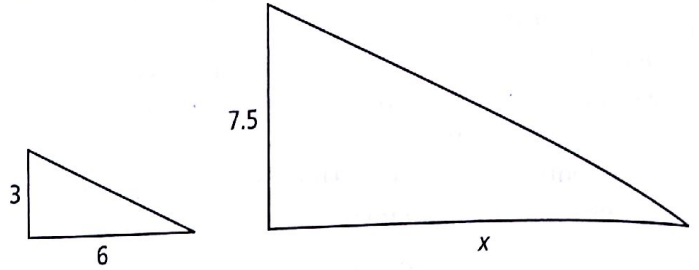
10. What are the solutions of $-\frac{1}{9}a + 1 < 8$?

- F. $a > 7$ H. $a > -63$
G. $a < 7$ J. $a < -63$



11. What are the solutions of $4 < 6b - 2 \leq 28$?
- A. $\frac{1}{3} < b \leq \frac{13}{3}$ C. $\frac{2}{3} < b \leq \frac{14}{3}$
 B. $6 < b \leq 30$ D. $1 < b \leq 5$
12. A model car kit is built to a scale of 1 : 32. The length of the actual car is 416 cm. What is the length of the model car?
- F. 384 cm H. 13 cm
 G. 133 cm J. 7 cm
13. Sabrina's car has traveled 28,000 mi. If she drives 36 mi each day, which equation can be used to find the total number of miles m Sabrina's car will have traveled after she drives it for d days?
- A. $d = 36m + 28,000$
 B. $m = 36d + 28,000$
 C. $m + 36d = 28,000$
 D. $d = 28,000m + 36$
14. A fox runs at a rate of 26 mi/h and a cat runs at a rate of 44 ft/s. What is the difference in their speeds?
 (Hint: 1 mi = 5280 ft)
- F. 26 ft/s H. 18 mi/h
 G. 5.9 ft/s J. 30 mi/h

19. What is the solution of $\frac{7}{5} = \frac{9}{x}$? Round your answer to the nearest thousandth if necessary.
20. What is the value of d when $11(d + 1) = 4(d + 8)$?
21. The triangles below are similar. What is the value of x ?



22. An insect flies 20 ft in 1 s. How fast does the insect fly in miles per hour? Round to the nearest hundredth if necessary.
23. A hockey puck travels at a constant speed of 20 m/s. What is the speed in mi/h? Round to the nearest hundredth. (1 m \approx 3.28 ft)
24. The cost for a taxi is \$2.50 plus \$2.00 per mile. If the total for a taxi ride was \$32.50, how many miles did the customer travel?
25. You are making a scale model of a sports field. The actual field is a rectangle with a length of 315 ft and a width of 300 ft. Your scale model is 15 in. wide. What is its length in inches?
26. Pristine Printing will print business cards for \$.10 each plus a setup charge of \$15. The Printing Place offers business cards for \$.15 each with a setup charge of \$10. What number of business cards costs the same from either printer?
27. A new pizza shop is going to print new menus. Each menu costs \$.50 to produce. The owners have a total budget of \$2500 for the new menus. How many menus can the pizza shop print?
28. Concert tickets cost \$25 each. A college student ordered some tickets online. There was a service charge of \$3 per ticket. The total came to \$252. How many tickets did the student order?

Gridded Response

15. The perimeter of a rectangle is given by the equation $2w + 33 = 54$. What is w , the width of the rectangle?
16. Pablo can wash 6 cars in 40 min. At this rate, how many cars can Pablo wash in 4 h?
17. Travis sells black-and-white photos of cities across the country. Each photo's width is half its height. Find the area in square inches of a photo that is 4 in. tall.
18. Isabella is covering a square tabletop with square mosaic tiles. The tabletop is 2 ft long and 2 ft wide. Each tile is $\frac{1}{4}$ in. long and $\frac{1}{4}$ in. wide. What is the minimum number of tiles needed to cover the tabletop?