Name: Key Class: _____ Date: _____ ID: A

Chapter 7 Pretest

Multiple Choice

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

9 : 15
÷3 ÷3
3 . 5

a 1. There are 15 plums and 9 apples in a fruit bowl. What is the ratio of apples to plums?

a. 3:5 b. 3:8 c. 5:3 d. 8:3

a 2. Of the 240 students eating lunch, 96 purchased their lunch and the rest brought a bag lunch. What is the ratio of students purchasing lunch to students bringing a bag lunch?

96 : (240 - 96)
96 : 144

a. 2:3 b. 2:5 c. 3:2 d. 5:2

d 3. The scale drawing of a porch is 8 inches wide by 12 inches long. If the actual porch is 12 feet wide, what is the length of the porch?

a. 8 ft b. 10 ft c. 16 ft d. 18 ft

$\frac{8}{12} = \frac{12}{x}$

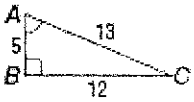
$x = 18$

b 4. Solve $\frac{5}{6} = \frac{4}{x}$.

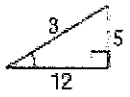
$24 = 5x$

a. 4.6 b. 4.8 c. 5 d. 7

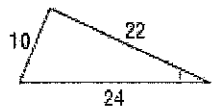
b 5. Find the triangle similar to ΔABC at the right.



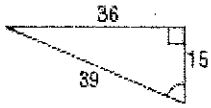
a.



c.



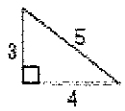
b.



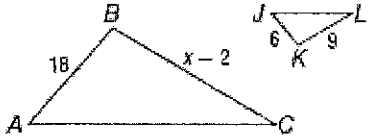
$\frac{5}{15} = \frac{12}{36} = \frac{13}{39}$

$\frac{1}{3} = \frac{1}{3} = \frac{1}{3}$

d.



d 6. Find the value of x if $\Delta ABC \sim \Delta JKL$.



$\frac{6}{18} = \frac{9}{x-2}$

$162 = 6x - 12$

$\frac{174}{6} = \frac{6x}{6}$

a. 10 b. 14 c. 25 d. 29

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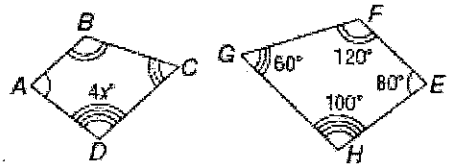
C 7. Quadrilateral $ABCD \sim$ quadrilateral $EFGH$. Find the value of x.

~ figures have congruent angles

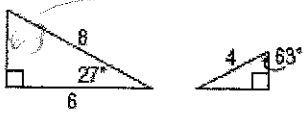


$4x = 100$

$x = 25$

a. 15 b. 20 c. 25 d. 30

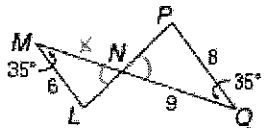
A 8. Which theorem or postulate can be used to prove that these two triangles are similar?



$180 - (90 + 27) = 63$

a. AA b. SAS c. SSA d. SSS

B 9. Find MN.

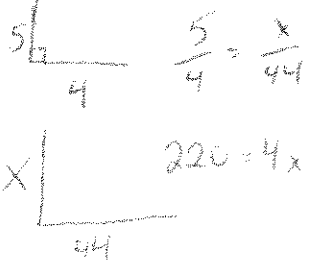


$\frac{x}{9} = \frac{6}{8}$ $\quad 54 = 8x$ $\quad x = 6.75$

a. $5\frac{1}{3}$ b. $6\frac{3}{4}$ c. 7 d. 12

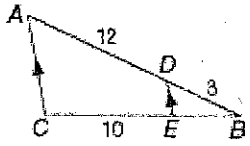
D 10. A 5-foot tall student cast a 4-foot shadow. If the tree next to her cast a 44-foot shadow, what is the height of the tree?

a. $35\frac{1}{5}$ ft b. 45 ft c. $51\frac{1}{2}$ ft d. 55 ft



$\frac{5}{4} = \frac{x}{44}$ $\quad 220 = 4x$

D 11. In ΔABC, $\overline{DE} \parallel \overline{AC}$. If $AD = 12$, $BD = 3$, and $CE = 10$, find BE.



$\frac{12}{3} = \frac{10}{x}$ $\quad 30 = 12x$ $\quad x = 2.5$

a. 1 b. $1\frac{1}{2}$ c. 2 d. $2\frac{1}{2}$

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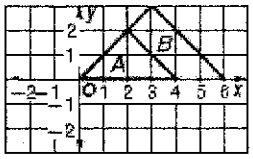
b 12. What is the scale factor of the dilation of A to B?

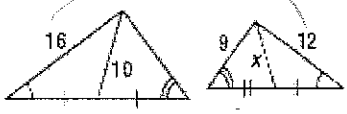


(enlargement)

6 : 4 = 3 : 2

a. 1 b. $\frac{3}{2}$ c. 2 d. 6

d 13. Find the value of x.



corresponding

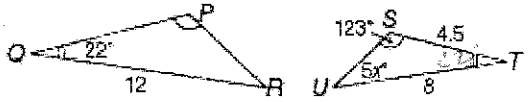
$\frac{16}{10} = \frac{12}{x}$

$120 = 16x$

$x = 7.5$

a. 5 b. 6 c. 6 1/2 d. 7 1/2

b 14. If $\Delta PQR \sim \Delta STU$, find the value of x.



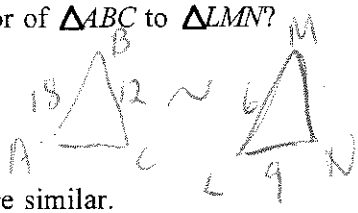
$180 = 123 + 20 + 5x$

$35 = 5x$

a. 4.4 b. 7 c. 24.6 d. 35

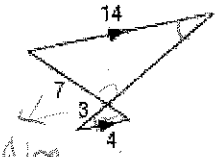
C 15. $\Delta ABC \sim \Delta LMN$, $AB = 18$, $BC = 12$, $LN = 9$, and $LM = 6$. What is the scale factor of ΔABC to ΔLMN?

a. $\frac{9}{2}$ b. $\frac{3}{2}$ c. $\frac{3}{1}$ d. $\frac{2}{1}$



18 : 6

a 16. Name the theorem or postulate that can be used to prove that these triangles are similar.



these sides are not corresponding

Angles are congruent by alternate interior angles (l/c lines are parallel) and vertical angles

a. AA Similarity b. SSS Similarity c. SAS Similarity d. SSA Similarity

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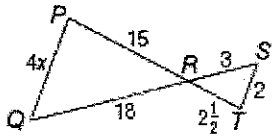
Refer to the figure below to answer the following questions.



C 17. Identify the true statement.

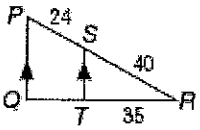
a. $\Delta PQR \sim \Delta RST$
c. $\Delta PQR \sim \Delta TSR$
b. $\Delta PQR \sim \Delta STR$
d. $\Delta PQR \sim \Delta TRS$

b 18. Find the value of x.

a. $2\frac{1}{2}$ b. 3 c. $3\frac{1}{2}$ d. 4

$\frac{4x}{2} = \frac{18}{3}$
$36 = 12x$

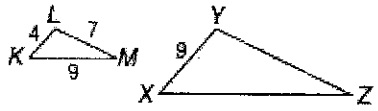
d 19. Find QT.



$\frac{46}{24} = \frac{35}{x}$ $840 = 40x$

a. 15 b. 17 c. 19 d. 21

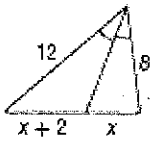
C 20. If $\Delta KLM \sim \Delta XYZ$, find the perimeter of ΔXYZ.



$\frac{4}{9} = \frac{20}{P}$ $180 = 4P$ $P = 45$

a. 40 b. 42 c. 45 d. 48

a 21. Find the value of x.



$\frac{12}{x+2} = \frac{8}{x}$ $12x = 8x + 16$ $-8x \quad -8x$ $4x = 16$

a. 4 b. 5 c. 6 d. 8