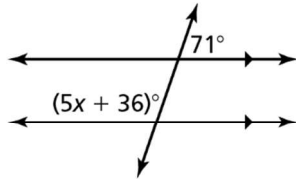


Chapter 6 Test Prep

1. What is the value of x ?



$x =$

-	-	-	-	-	-	-	-
/	/	/	/	/	/	/	/
.	.	.	.	.	.	.	.
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

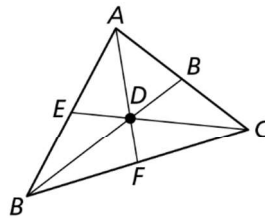
2. You have a square digital photo that has a side length of 800 pixels. You enlarge the photo so its side length is 2100 pixels. What is the scale factor of this dilation?

$k =$

-	-	-	-	-	-	-	-
/	/	/	/	/	/	/	/
.	.	.	.	.	.	.	.
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

3. Point D is the centroid of $\triangle ABC$, and $DE = 6$. What is CD ?

- (A) 4
(B) 6
(C) 12
(D) 18

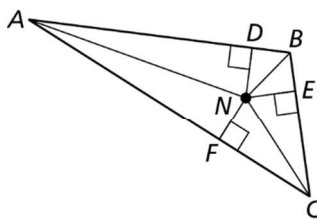


4. Which point lies on the perpendicular bisector of the segment with endpoints $A(-3, 6)$ and $B(5, 2)$?

- (A) (4, 10)
(B) (2, 2)
(C) (3, 3)
(D) (5, 6)

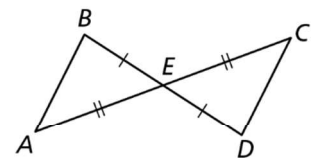
5. Point N is the incenter of $\triangle ABC$. $ND = 4x + 5$ and $NE = 8x - 3$. What is NF ?

- (A) 1
(B) 2
(C) 9
(D) 13



6. Which of the following are not corresponding parts of the congruent triangles?

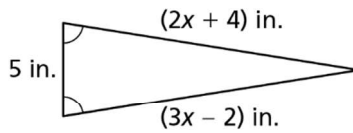
- (A) $\angle AEB \cong \angle CED$
(B) $\angle B \cong \angle C$
(C) $\overline{AB} \cong \overline{CD}$
(D) $\angle A \cong \angle C$



Chapter 6

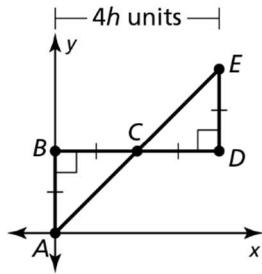
Test Prep (continued)

7. What is the perimeter of the triangle?



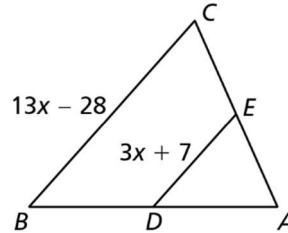
8. What is CE ?

- (A) $2h$ units
(B) $2h\sqrt{2}$ units
(C) $4h$ units
(D) $4h\sqrt{2}$ units



9. $\overline{DE}$ is a midsegment of $\triangle ABC$. What is BC ?

- (A) 6
(B) 17.5
(C) 35
(D) 50



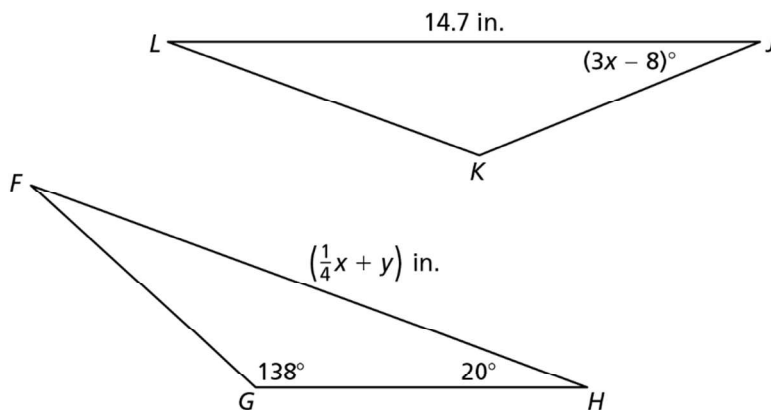
10. Three groups of hikers leave the same camp heading in different directions. Each group hikes 2.6 miles, then changes direction and hikes 3.2 miles. Group A starts due north and then turns 30° toward east. Group B starts due west and then turns 40° toward south. Group C starts due east and then turns 45° toward north. Which group is farther from camp?

- (A) Group A
(B) Group B
(C) Group C
(D) All three groups are the same distance from camp.

11. $\triangle FGH \cong \triangle JKL$. What is the value of y ?

$y =$

-	-	-	-	-	-	-	-
/	/	/	/	/	/	/	/
.	.	.	.	.	.	.	.
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

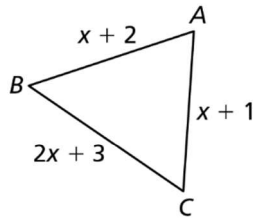


Chapter 6

Test Prep (continued)

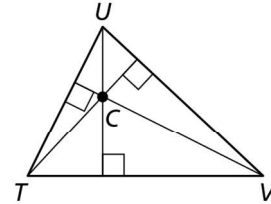
12. Which of the following lists the angles of the triangle from smallest to largest?

- (A) $\angle B, \angle C, \angle A$
 (B) $\angle A, \angle C, \angle B$
 (C) $\angle C, \angle B, \angle A$
 (D) $\angle B, \angle A, \angle C$



13. Which point of concurrency is point C?

- (A) circumcenter
 (B) incenter
 (C) centroid
 (D) orthocenter



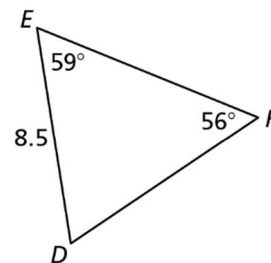
14. The line $y = -2x + 1$ is reflected in the line $y = 2$. Write the equation of the image.

15. $\triangle XYZ$ has vertices $X(3, -2)$, $Y(5, 4)$, and $Z(-1, 6)$. Which of the following are the vertices of the midsegment triangle?

- (A) $(1, 2)$
 (B) $(-1, -3)$
 (C) $(2, -4)$
 (D) $(4, 1)$
 (E) $(3, -1)$
 (F) $(2, 5)$

16. In $\triangle DEF$, which is a possible side length for $\overline{DF}$? Select all that apply.

- (A) 7.9
 (B) 8.2
 (C) 8.5
 (D) 8.9
 (E) 9.2



17. Which property does the statement “If $\overline{DE} \cong \overline{MN}$ and $\overline{MN} \cong \overline{XY}$, then $\overline{DE} \cong \overline{XY}$.” illustrate?

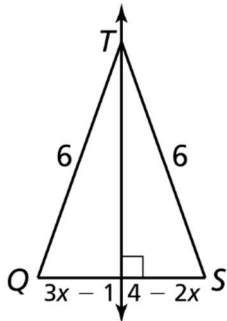
- (A) Reflexive Property of Segment Congruence
 (B) Symmetric Property of Segment Congruence
 (C) Substitution Property of Equality
 (D) Transitive Property of Segment Congruence

Chapter 6

Test Prep (continued)

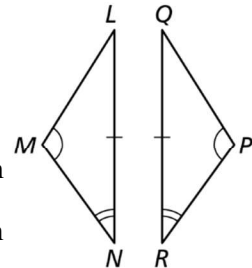
18. What is the perimeter of $\triangle QTS$?

- (A) 13 units
(B) 14 units
(C) 16 units
(D) 18 units



19. Which theorem can you use to prove that $\triangle LMN \cong \triangle QPR$?

- (A) SSS Congruence Theorem
(B) SAS Congruence Theorem
(C) ASA Congruence Theorem
(D) AAS Congruence Theorem

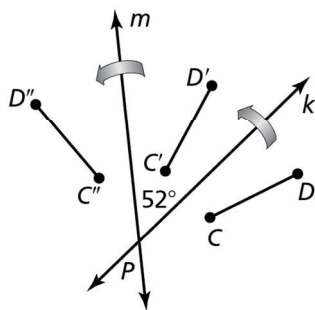


20. Which of the following statements is false?

- (A) The incenter of a triangle is equidistant from the sides of the triangle.
(B) The circumcenter of a right triangle is on the triangle.
(C) The incenter of an obtuse triangle is outside the triangle.
(D) The circumcenter of a triangle is equidistant from the vertices of the triangle.

21. What is the angle of rotation that maps $\overline{CD}$ to $\overline{C'D'}$?

- (A) 26°
(B) 52°
(C) 78°
(D) 104°



22. The midpoint of $\overline{RS}$ is $M(-7, 2)$. One endpoint is $S(-5, 6)$. What are the coordinates of endpoint R ?

- (A) $(-9, -2)$
(B) $(-3, 10)$
(C) $(-6, 4)$
(D) $(-1, -2)$

23. Which of the following is the inverse of the conditional statement?

Conditional statement If a polygon is an octagon, then it has eight sides.

- (A) If a polygon has eight sides, then it is an octagon.
(B) If a polygon does not have eight sides, then it is not an octagon.
(C) If a polygon is not an octagon, then it does not have eight sides.
(D) A polygon is an octagon if and only if it has eight sides.