Similar Triangles Practice

Choose one answer per question. Circle A, B, C, or D.

1. Triangles PQR and VWX are similar. P matches V, Q matches W, and R matches X. Which pair contains corresponding sides?

A. PR and VX
B. PR and VW
C. QR and VX
D. PQ and WX

2. Triangle ABC is similar to triangle DEF, with vertices listed in corresponding order. Angle A is 49° and angle B is 72°. What is the measure of angle E?

A. 59°
B. 49°
C. 72°
D. 108°

3. In similar triangles ABC and JKL, side AB corresponds to side JK. If AB = 6 cm and JK = 15 cm, what is the scale factor from ABC to JKL?

A. 2/5
B. 5/2
C. 3/2
D. 9

4. Triangle ABC is similar to triangle DEF in that order. AB = 9 cm, DE = 6 cm, and BC = 15 cm. What is EF?

A. 18 cm
B. 22.5 cm
C. 12 cm
D. 10 cm

5. Similar triangles ABC and DEF have corresponding sides AB = 8 cm and DE = 12 cm. The perimeter of ABC is 34 cm. What is the perimeter of DEF?

A. 38 cm
B. 51 cm
C. 22⅔ cm
D. 76.5 cm

6. In triangle ABC, angle A is 31° and angle B is 94°. In triangle DEF, angle D is 55° and angle E is 31°. Which triangle is similar to ABC with its vertices listed in corresponding order?

A. EFD
B. EDF
C. DEF
D. FED

7. Triangle ABC has AB = 8 cm, BC = 10 cm, and CA = 13 cm. Which list of lengths for JK, KL, and LJ, in that order, makes JKL similar to ABC with A matching J, B matching K, and C matching L?

A. 12 cm, 16 cm, 18 cm
B. 12 cm, 15 cm, 21 cm
C. 12 cm, 14 cm, 19 cm
D. 12 cm, 15 cm, 19.5 cm

8. In triangle ABC, AB = 12 cm, AC = 14 cm, and angle A is 48°. Triangle DEF has DE = 18 cm and DF = 21 cm. Which extra fact establishes that ABC and DEF are similar in that order by side-angle-side?

A. Angle F is 48°.
B. Angle E is 48°.
C. Angle D is 48°.
D. Angle D is 52°.

9. Triangles JKL and MNP share the same measure for angles J and M. The side lengths are JK = 9 cm, JL = 16 cm, MN = 18 cm, and MP = 34 cm. A student claims JKL is similar to MNP in that order. Which check correctly tests the claim?

A. 18/9 and 34/16 are unequal, so this correspondence fails.
B. Equal angles J and M are enough to prove the claim by angle-angle.
C. Both pairs grow in length, so the side ratios establish the claim.
D. 18/9 and 34/16 are close enough to prove the claim by rounding.

10. On level ground at the same time, a vertical signpost casts a 9.6 m shadow and a nearby 1.5 m vertical marker casts a 2.4 m shadow. The two triangles match height to height and shadow to shadow. How tall is the signpost?

A. 15.36 m
B. 4 m
C. 8.7 m
D. 6 m

11. Triangle JKL is similar to triangle MNP in that order. JK = 9 cm and MN = 15 cm. The corresponding lengths KL and NP are x + 3 and 3x − 1 centimeters. What is NP?

A. 10 cm
B. 7.5 cm
C. 12.5 cm
D. 14 cm

12. Triangle ABC is similar to triangle PQR in that order. Their areas are 28 cm² and 63 cm², respectively. If AC = 16 cm, what is PR?

A. 36 cm
B. 24 cm
C. 32 cm
D. 10⅔ cm

13. In triangle KLM, S lies between K and L, and T lies between K and M. Segment ST is parallel to LM. If KS = 7 cm, SL = 5 cm, and KT = 10.5 cm, what is TM?

A. 4.375 cm
B. 18 cm
C. 5 cm
D. 7.5 cm

14. Triangle ABC has A(−1, 1), B(3, 1), and C(−1, 4). Triangle PQR has P(8, 3), Q(8, 11), and R(2, 3). Which order matches the vertices to ABC, and what is the length factor from ABC to PQR?

A. PQR, with factor 2
B. PRQ, with factor 2
C. QPR, with factor 2
D. PQR, with factor 1/2

15. Triangle ABC has a right angle at C. Point D lies between A and B, and CD is perpendicular to AB. If AD = 25 cm and DB = 144 cm, what is CD?

A. 156 cm
B. 65 cm
C. 60 cm
D. 169 cm