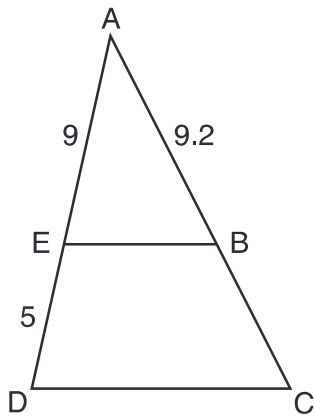


Use this space for computations.

10 Which regular polygon has a minimum rotation of 45° to carry the polygon onto itself?

- (1) octagon
- (2) decagon
- (3) hexagon
- (4) pentagon

11 In the diagram of $\triangle ADC$ below, $\overline{EB} \parallel \overline{DC}$, $AE = 9$, $ED = 5$, and $AB = 9.2$.

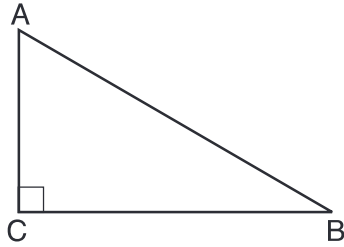


What is the length of \overline{AC} , to the *nearest tenth*?

- (1) 5.1
- (2) 5.2
- (3) 14.3
- (4) 14.4

Use this space for
computations.

12 In scalene triangle ABC shown in the diagram below, $m\angle C = 90^\circ$.



Which equation is always true?

- (1) $\sin A = \sin B$ (3) $\cos A = \sin C$
(2) $\cos A = \cos B$ (4) $\sin A = \cos B$

13 Quadrilateral $ABCD$ has diagonals \overline{AC} and \overline{BD} . Which information is *not* sufficient to prove $ABCD$ is a parallelogram?

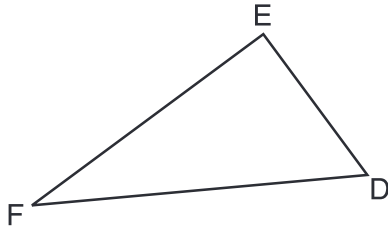
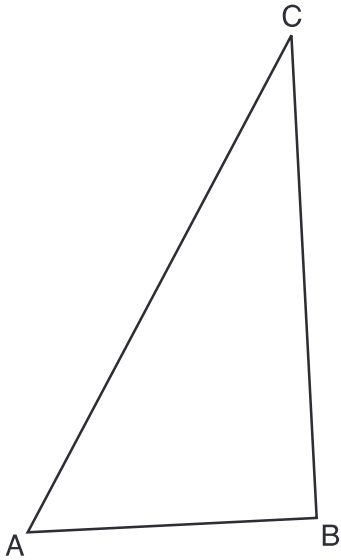
- (1) \overline{AC} and \overline{BD} bisect each other.
(2) $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{AD}$
(3) $\overline{AB} \cong \overline{CD}$ and $\overline{AB} \parallel \overline{CD}$
(4) $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \parallel \overline{AD}$

14 The equation of a circle is $x^2 + y^2 + 6y = 7$. What are the coordinates of the center and the length of the radius of the circle?

- (1) center $(0,3)$ and radius 4
(2) center $(0,-3)$ and radius 4
(3) center $(0,3)$ and radius 16
(4) center $(0,-3)$ and radius 16

15 Triangles ABC and DEF are drawn below.

Use this space for
computations.



If $AB = 9$, $BC = 15$, $DE = 6$, $EF = 10$, and $\angle B \cong \angle E$, which statement is true?

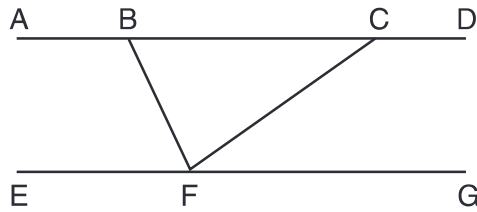
- (1) $\angle CAB \cong \angle DEF$ (3) $\triangle ABC \sim \triangle DEF$
(2) $\frac{AB}{CB} = \frac{FE}{DE}$ (4) $\frac{AB}{DE} = \frac{FE}{CB}$

16 If $\triangle ABC$ is dilated by a scale factor of 3, which statement is true of the image $\triangle A'B'C'$?

- (1) $3A'B' = AB$ (3) $m\angle A' = 3(m\angle A)$
(2) $B'C' = 3BC$ (4) $3(m\angle C') = m\angle C$

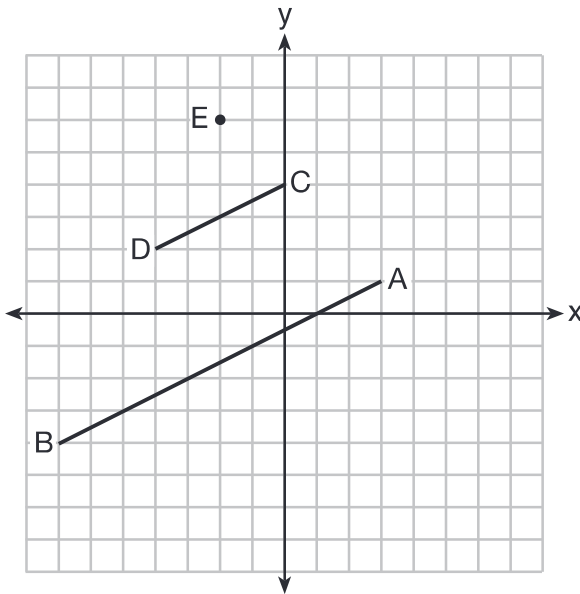
Use this space for computations.

- 17 Steve drew line segments $ABCD$, EFG , BF , and CF as shown in the diagram below. Scalene $\triangle BFC$ is formed.



Which statement will allow Steve to prove $\overline{ABCD} \parallel \overline{EFG}$?

- (1) $\angle CFG \cong \angle FCB$ (3) $\angle EFB \cong \angle CFB$
 (2) $\angle ABF \cong \angle BFC$ (4) $\angle CBF \cong \angle GFC$
- 18 In the diagram below, \overline{CD} is the image of \overline{AB} after a dilation of scale factor k with center E .



Which ratio is equal to the scale factor k of the dilation?

- (1) $\frac{EC}{EA}$ (3) $\frac{EA}{BA}$
 (2) $\frac{BA}{EA}$ (4) $\frac{EA}{EC}$