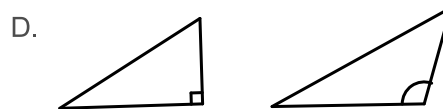
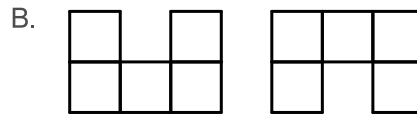
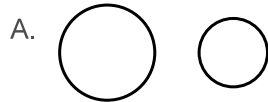


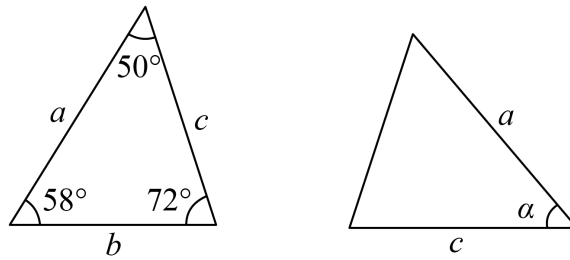
Congruent Triangles

1 Which of the following pairs are congruent figures?

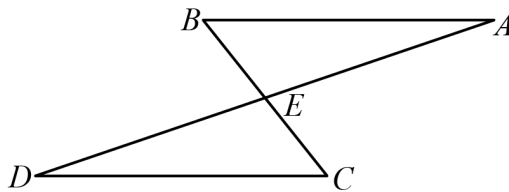


2 If $\triangle ABC \cong \triangle DEF$, then side AB is corresponding to _____, side AC is corresponding to _____, $\angle C$ is corresponding to _____, and $\angle DEF$ is corresponding to _____. The perimeter of the two triangles $P_{\triangle ABC}$ _____ $P_{\triangle DEF}$, and the area of the two triangles $A_{\triangle ABC}$ _____ $A_{\triangle DEF}$ (Fill in the last two blanks with "<", "=", or ">").

- 3 Given that the two triangles in the figure below are congruent to each other, then $\angle \alpha =$ _____ $^\circ$.

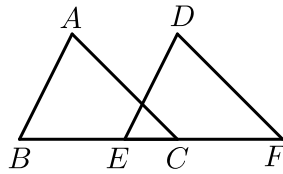


- 4 Refer to the figure below. Given that $\triangle ABE \cong \triangle DCE$, $AE = 2$ cm, $BE = 1.5$ cm, $\angle A = 25^\circ$, $\angle B = 48^\circ$. Then $DE =$ _____ cm and $EC =$ _____ cm, $\angle C =$ _____ $^\circ$ and $\angle D =$ _____ $^\circ$.



- 5 As shown in the diagram, translate $\triangle ABC$ in the direction of the line BC to get $\triangle DEF$.

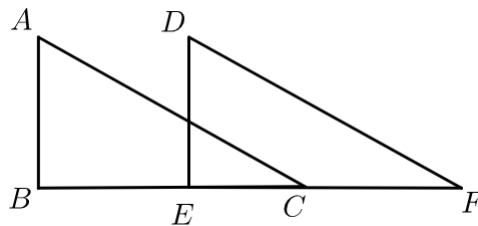
Which of the following statements is incorrect?



- A. $\angle A = \angle D$ B. $BE = CF$ C. $AC = DE$ D. $AB \parallel DE$

- 6 As shown in the diagram, the right-angled triangle ABC is translated to the right along the line BC to get triangle DEF .

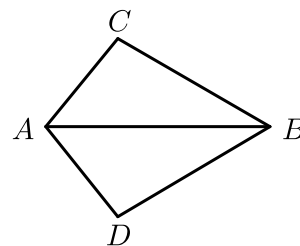
Which of the following is incorrect?



- A. $AC = DF$ B. $BE = EC$ C. $\angle A = \angle D$ D. $\angle DEF = 90^\circ$

7 As shown in the diagram, fold $\triangle ABC$ along AB to get $\triangle ABD$.

Given that $\angle ABC = 30^\circ$ and $\angle ADB = 100^\circ$, work out the value of $\angle BAC$.



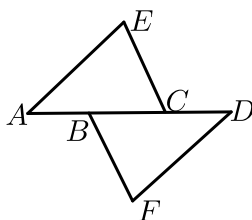
A. 30°

B. 100°

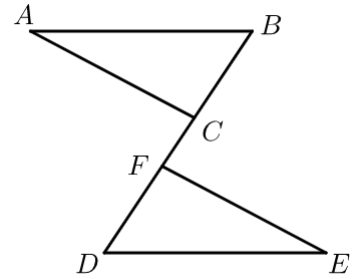
C. 50°

D. 80°

8 As shown in the figure, $\triangle ACE \cong \triangle DBF$, $AD = 8$, $BC = 2$. The length of $AC =$ _____.

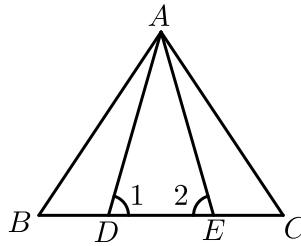


- 9 As shown in the figure, given that $\triangle ABC \cong \triangle EDF$, which of the following statements is incorrect?



- A. $\overline{AB} \parallel \overline{DE}$ B. $\overline{AC} \parallel \overline{EF}$ C. $AC = DF$ D. $BF = CD$

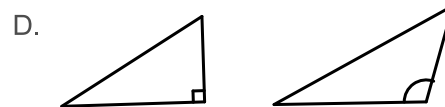
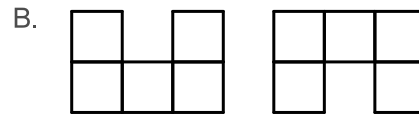
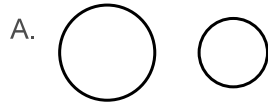
- 10 As shown in the diagram, it is known that $\triangle ABE \cong \triangle ACD$, $\angle 1 = \angle 2$, $\angle B = \angle C$. Which of the following conclusion is incorrect?



- A. $AB = AC$ B. $\angle BAE = \angle CAD$ C. $BE = DC$ D. $AD = DE$

Congruent Triangles

1 Which of the following pairs are congruent figures?



Answer B

Solution Only the two figures in option **B** are congruent.

The answer is **B**.

2 If $\triangle ABC \cong \triangle DEF$, then side AB is corresponding to _____, side AC is corresponding to _____, $\angle C$ is corresponding to _____, and $\angle DEF$ is corresponding to _____. The perimeter of the two triangles $P_{\triangle ABC}$ _____ $P_{\triangle DEF}$, and the area of the two triangles $A_{\triangle ABC}$ _____ $A_{\triangle DEF}$ (Fill in the last two blanks with "<", "=", or ">").

Answer 1: DE

2: DF

3: $\angle F$

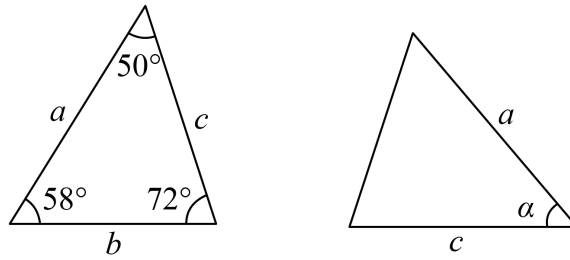
4: $\angle ABC$

5: =

6: =

Solution CPCTC: Corresponding Parts of Congruent Triangles are Congruent.

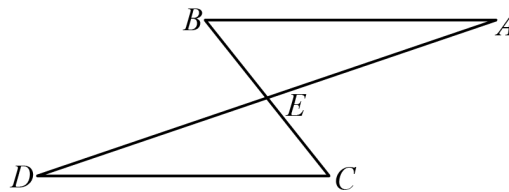
3 Given that the two triangles in the figure below are congruent to each other, then $\angle \alpha =$ _____ $^\circ$.



Answer 50

Solution $\angle \alpha$ is the included angle of sides a and c . So $\angle \alpha = 50^\circ$.

- 4 Refer to the figure below. Given that $\triangle ABE \cong \triangle DCE$, $AE = 2$ cm, $BE = 1.5$ cm, $\angle A = 25^\circ$, $\angle B = 48^\circ$. Then $DE =$ _____ cm and $EC =$ _____ cm, $\angle C =$ _____ $^\circ$ and $\angle D =$ _____ $^\circ$.



Answer 1:2

2:1.5

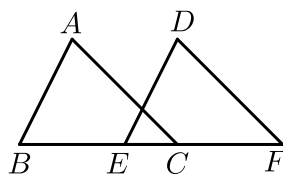
3:48

4:25

Solution Corresponding Parts of Congruent Triangles are Congruent.

- 5 As shown in the diagram, translate $\triangle ABC$ in the direction of the line BC to get $\triangle DEF$.

Which of the following statements is incorrect?



A. $\angle A = \angle D$

B. $BE = CF$

C. $AC = DE$

D. $AB \parallel DE$

Answer C

Solution $\because \triangle ABC \cong \triangle DEF$,

$\therefore \angle A = \angle D$, option **A** is correct.

$\therefore BC = EF$,

$\therefore BE = CF$, so option **B** is correct.

$AC = DF \neq DE$, so option **C** is incorrect.

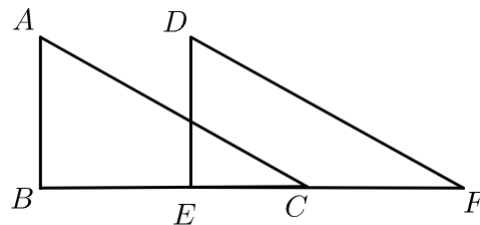
$\therefore \angle B = \angle DEF$,

$\therefore AB \parallel DE$, so option **D** is correct.

The answer is **C**.

- 6 As shown in the diagram, the right-angled triangle ABC is translated to the right along the line BC to get triangle DEF .

Which of the following is incorrect?



- A. $AC = DF$ B. $BE = EC$ C. $\angle A = \angle D$ D. $\angle DEF = 90^\circ$

Answer B

Solution $\because \triangle ABC \cong \triangle DEF$,

$\therefore AC = DF, BC = EF, \angle A = \angle D, \angle DEF = \angle ABC = 90^\circ$,

$\therefore BC - CE = EF - CE$,

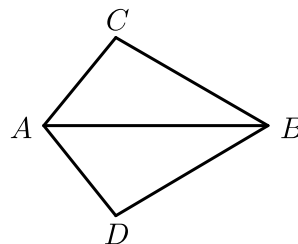
$\therefore BE = CF$,

$\therefore$ Option **B** is not correct.

The answer is **B**.

7 As shown in the diagram, fold $\triangle ABC$ along AB to get $\triangle ABD$.

Given that $\angle ABC = 30^\circ$ and $\angle ADB = 100^\circ$, work out the value of $\angle BAC$.



A. 30°

B. 100°

C. 50°

D. 80°

Answer C

Solution $\because \triangle ABC \cong \triangle ABD$

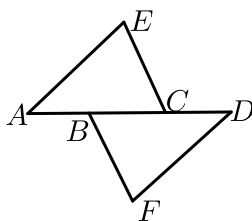
$$\therefore \angle ACB = \angle ADB = 100^\circ$$

$$\because \angle ABC = 30^\circ$$

$$\therefore \angle BAC = 180^\circ - \angle ACB - \angle ABC = 180^\circ - 100^\circ - 30^\circ = 50^\circ$$

The answer is C.

8 As shown in the figure, $\triangle ACE \cong \triangle DBF$, $AD = 8$, $BC = 2$. The length of $AC =$ _____.



Answer 5

Solution $\because \triangle ACE \cong \triangle DBF$,

$$\therefore AC = DB$$

$$\angle ACE = \angle DBF$$

$$\therefore AC - BC = DB - BC, \text{ so } AB = CD,$$

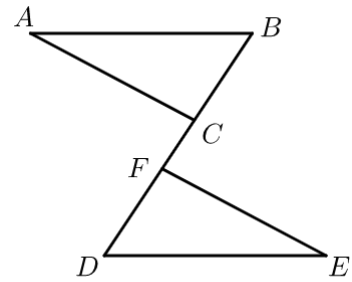
$$CE \parallel BF.$$

$$\therefore AD = AC + BD - BC,$$

$$\therefore 2AC = AD + BC = 8 + 2 = 10,$$

$$\therefore AC = 5.$$

- 9 As shown in the figure, given that $\triangle ABC \cong \triangle EDF$, which of the following statements is incorrect?



- A. $\overline{AB} \parallel \overline{DE}$ B. $\overline{AC} \parallel \overline{EF}$ C. $AC = DF$ D. $BF = CD$

Answer C

Solution $\triangle ABC \cong \triangle EDF$,

we have $m\angle B = m\angle D$, thus $\overline{AB} \parallel \overline{DE}$, so A is correct;

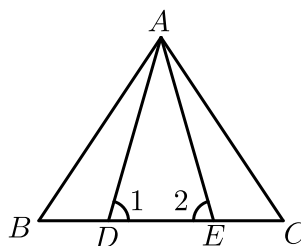
$m\angle ACB = m\angle EFD$, thus $\overline{AC} \parallel \overline{EF}$, so B is correct;

$AC = EF$, so C is incorrect;

$BF = CD$, so D is correct.

The correct choice is C .

- 10 As shown in the diagram, it is known that $\triangle ABE \cong \triangle ACD$, $\angle 1 = \angle 2$, $\angle B = \angle C$. Which of the following conclusion is incorrect?



A. $AB = AC$

B. $\angle BAE = \angle CAD$

C. $BE = DC$

D. $AD = DE$

Answer D

Solution $\because \triangle ABE \cong \triangle ACD, \angle 1 = \angle 2, \angle B = \angle C,$

$\therefore AB = AC, \angle BAE = \angle CAD, BE = DC, AD = AE,$

The answer is D.