

G1a: Coordinate Geometry Extra Practice

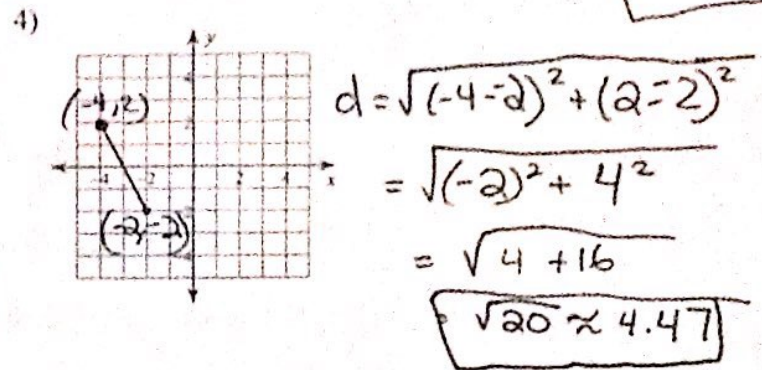
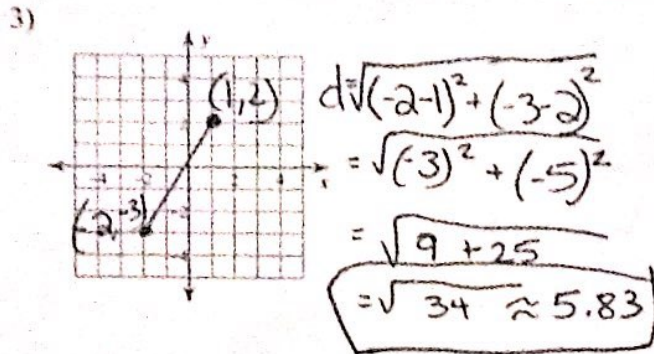
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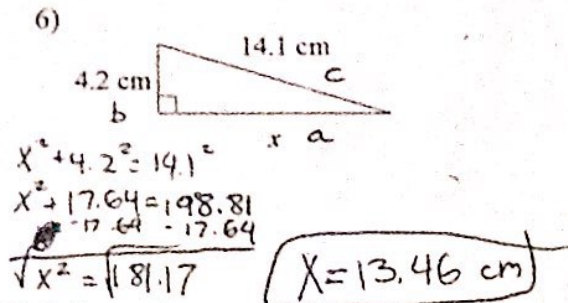
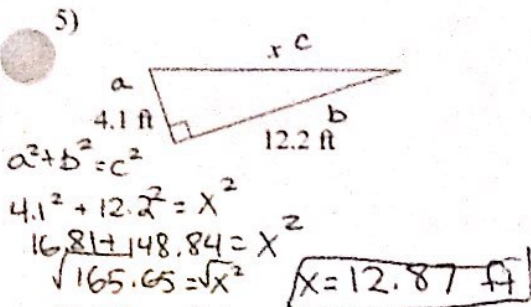
Find the distance between each pair of points.

1) $(x_1, y_1), (x_2, y_2)$
 $(-3, 2), (2, -6)$
 $d = \sqrt{(2-(-3))^2 + (-6-2)^2}$
 $= \sqrt{(5)^2 + (-8)^2} = \sqrt{25+64} = \sqrt{89} \approx 9.43 \text{ units}$

2) $(x_1, y_1), (x_2, y_2)$
 $(3, 2), (-2, 1)$
 $d = \sqrt{(-2-3)^2 + (1-2)^2}$
 $= \sqrt{(-5)^2 + (-1)^2}$
 $= \sqrt{25+1} = \sqrt{26} \approx 5.10 \text{ unit}$

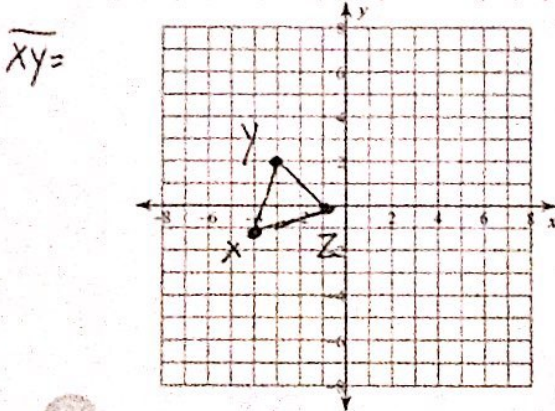


Find the missing side of each triangle. Round to one decimal place if necessary.

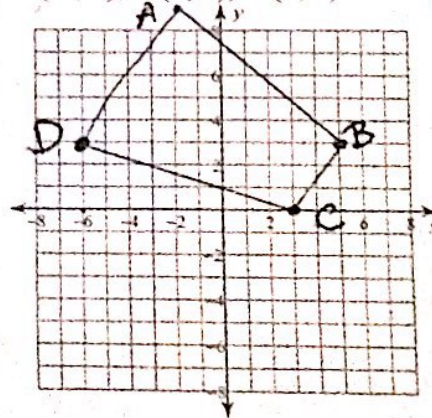


Plot the points and connect to make shape. Then find the perimeter of each shape.

7) X (-4, -1), Y (-3, 2) and Z (-1, 0).



8) A (-2, 9), B (5, 3), C (3, 0) and D (-6, 3)



8) $4) 2\sqrt{5}$

7) $3) \sqrt{34}$

6) $2) \sqrt{26}$

5) $1) \sqrt{89}$

$$\begin{aligned} \textcircled{7} \quad \overline{XY} &= \sqrt{(-4-3)^2 + (-1-2)^2} \\ &= \sqrt{(-1)^2 + (-3)^2} \\ &= \sqrt{1+9} \\ &= \sqrt{10} \approx \boxed{3.16} \end{aligned}$$

$$\begin{aligned} \overline{YZ} &= \sqrt{(-3-1)^2 + (2-0)^2} \\ &= \sqrt{(-2)^2 + 2^2} \\ &= \sqrt{4+4} = \sqrt{8} \approx \boxed{2.83} \end{aligned}$$

$$\begin{aligned} \overline{ZX} &= \sqrt{(-1-4)^2 + (0-1)^2} \\ &= \sqrt{(3)^2 + (-1)^2} \\ &= \sqrt{9+1} = \sqrt{10} \approx \boxed{3.16} \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad \overline{AB} &= \sqrt{(5-2)^2 + (3-9)^2} \\ &= \sqrt{7^2 + (-6)^2} \quad \overline{AB} = \\ &= \sqrt{49+36} = \sqrt{85} \approx \boxed{9.23} \end{aligned}$$

$$\begin{aligned} \overline{BC} &= \sqrt{(3-5)^2 + (0-3)^2} \\ &= \sqrt{(-2)^2 + (-3)^2} \quad \overline{BC} = \\ &= \sqrt{4+9} = \sqrt{13} \approx \boxed{3.61} \end{aligned}$$

$$\begin{aligned} \overline{DC} &= \sqrt{(-6-3)^2 + (3-0)^2} \\ &= \sqrt{(-9)^2 + 3^2} \quad \overline{DC} \\ &= \sqrt{81+9} = \sqrt{90} \approx \boxed{9.49} \end{aligned}$$

$$\begin{aligned} \overline{AD} &= \sqrt{(-2-6)^2 + (9-3)^2} \\ &= \sqrt{(4)^2 + 6^2} \\ &= \sqrt{16+36} = \sqrt{52} \\ &= \boxed{7.21} \end{aligned}$$