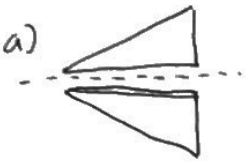
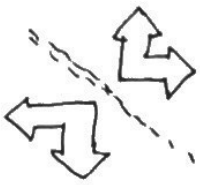
MA202 HW16 Solutions | 14.2: # 4, 6, 8, 10, 14, 18, 28, 30, 34, 36

14.2.4 a) Not a reflection. The blue figure is not the mirror image of the red figure.
b) Reflection. The red and blue figures are mirror images.
c) Reflection. The red and blue figures are flipped over the indicated line.
d) Not a reflection. (Rotation)

14.2.6

a) 

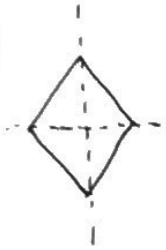
b) 

14.2.8

a) No symmetry due to the half circle at bottom of figure.

b) 180° Rotational symmetry and horizontal symmetry.

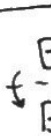
14.2.10

a) 
2 lines of symmetry
+2

b) 
5 lines of symmetry
+2

14.2.18

BIB ≅ BIB



BIB

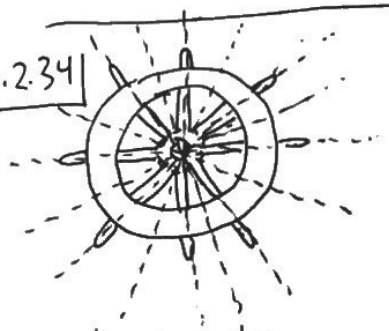
The word has a horizontal line of symmetry.

14.2.14

a) Not a glide reflection. The figures are a rotations by 180° of each other.

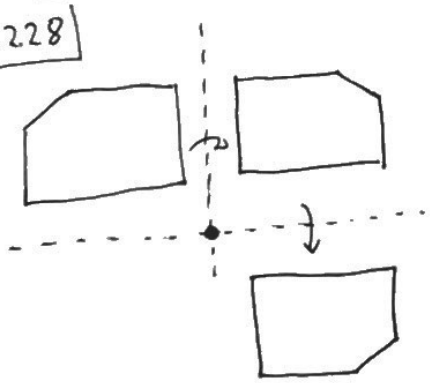
b) Not a glide reflection. The figures are translations of each other.

14.2.34



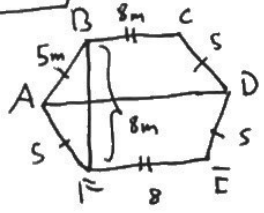
8 lines of symmetry.

14.2.28



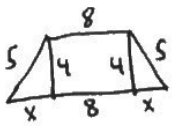
You could also rotate 180° around the marked point.

14.2.36



a) Because ABCD is a reflection of AFED,
$AB \cong AF$, $CD \cong DE$, $BC \cong FE$.
Since we also know $AB \cong CD$, the perimeter is $5+8+5+5+8+5 = \boxed{36\text{ m}}$.

b) Since BF is 8 m long, each trapezoid is 4m tall.



Use the Pythagorean Theorem: $x^2+4^2=5^2 \Rightarrow x=3$ m.

So $A_{trap} = \frac{1}{2}(8+(8+3+3)) \cdot 4 = 2(22) = 44\text{ m}^2$.

So the area of the hexagon is 88 m^2.