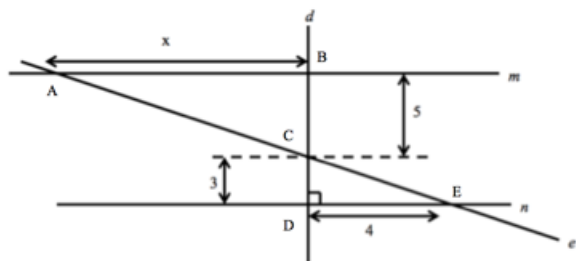


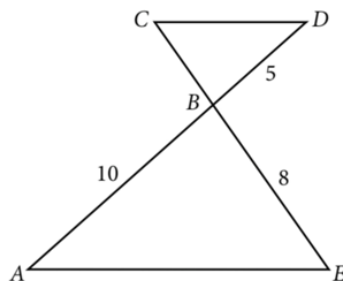
1.7 GEOMETRY ON THE PLANE (2) – TRIANGLES EXERCISES

1. In the figure below, line m is parallel to line n , line d is perpendicular to line n , and line e intersects line m and line n . What is the length of x ?

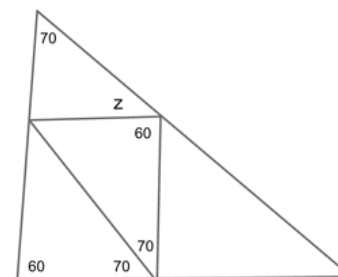
$$(x = \frac{20}{3})$$



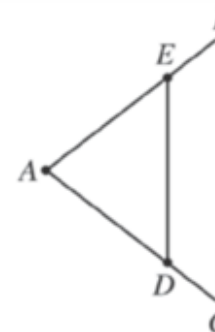
2. In the figure below AE and CD are parallel. Find the length of segment CE . ($CE=12$)



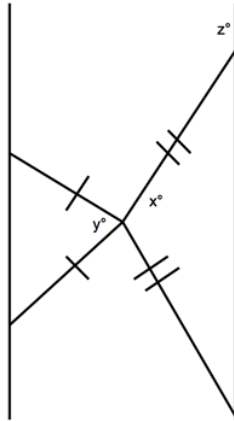
3. Find the measure of angle z ($z=30$)



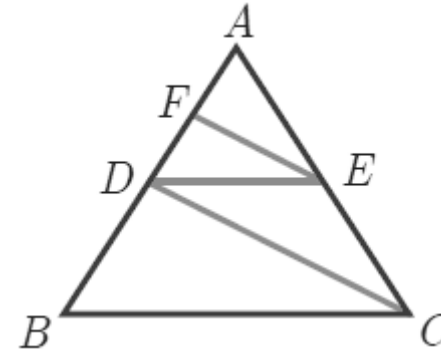
4. In triangle ABC below, $AB=AC$, E is the midpoint of AB , and D is the midpoint of AC . If $AE=x$, and $ED=4$, what is the length of BC ?



5. Two isosceles triangles are shown above. If $180 - x = 3y$ and $y = 20$, what is the value of z ?

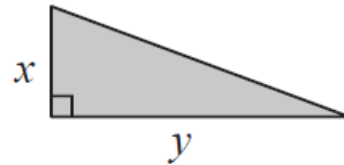


8. In figure $DE \parallel BC$ and $CD \parallel EF$. Prove that $|AD|^2 = |AB| \times |AF|$



6. The lengths of the sides of a right-angled triangle are all integers. Prove that if the lengths of the two shortest sides are even, then the length of the third side must also be even.

7. Here is a right-angled triangle.



Proof that the area of the square is $x^2 + y^2$.

