

# Module 3C

## Recording and Documenting

Forensic Science Teacher Professional Development



# Unit 1.6: Recording & Documenting the Crime Scene

## Documentation

Assessing the scene is followed by documenting the scene. Documenting the crime scene is the most crucial element of processing the scene. It functions to record the scene as it was initially found and to record any alteration to the scene by investigators as they search for and collect evidence.

## Examples of documentation include

- photography,
- notes,
- sketches and mapping,
- video recording, and
- case reports.



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- There are several characteristics of forensic photography.
  - Crime scene photographs tell the story of what happened.
  - Photos are also helpful in that they may show details of the scene that were overlooked upon initial observation.
  - The goal of photography is to be able to recreate the scene for further study and to provide evidence of what was and was not at the scene.
  - Good crime scene photos should be clear and in focus so that there is no difficulty determining the subject of the photo.

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- Characteristics of forensic photography, continued

- The photographs should provide overall, broad views of the scene and evidence-establishing close-ups of the evidence.
- They should also be able to show where the evidence is located in relation to other important elements of the scene.
- Scales should be provided to determine size and orientation.
- There should also be photos that differentiate similar items from one another.

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- Photos that don't meet these goals present the common issues for crime scene photography. Such problems include the following:
  - Identification: Identification problems occur when the viewer is unable to tell what the picture is of or why it was taken. This could be caused by unfocused or blurry photos.
  - Orientation: Orientation problems can include taking a picture in which there is no way to tell right from left, up from down. Without proper orientation, there is no way to tell where the evidence is in relation to the overall scene.
  - Confusion: Photographs that can be confusing might show the scene in an altered state without documenting what/who altered the scene. These might also include photographs of multiple similar items without any differentiating clues.
  - Incomplete documentation: This would include not taking a photograph of a critical item or evidence or some aspect of the scene or taking too few pictures. There is no such thing as taking too many photos.



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- Another issue investigators encounter is making sure the photos meet legal requirements.
- Steps to ensure legality include
  - making sure whoever is taking the pictures knows the equipment to ensure proper focus/lighting;
  - not taking pictures at abnormal or unnatural angles;
  - using appropriate lenses for each type of photo; and
  - not taking sensational or overly grotesque pictures.

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- A general list of typical photographs taken at the scene might include the following.
  - Photos of the entire location showing overall scene
  - Photos of adjacent sites
  - Photos of crowd/bystanders
  - Photos, if possible, of suspects, witnesses, their clothing, and injuries
  - Front entrance of the scene, e.g., door to the building
  - Entrance to the room where the scene is located
  - If a body is present, two full-body views (front and back)
  - General photo of body & scene
  - Close-up of the body
  - Photos of wounds
  - If the body was moved, its original location
  - Possible entrance or exit routes
  - If applicable, areas of forced entry
  - Overall and close-ups of physical evidence
  - Photos of any changes made to the scene

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- Investigators must also record specific information in their report about each photograph.
- This information includes the following:
  - Date/time photos were taken
  - Exact location of each photo
  - Description of the item in the photo
  - Directional information: North, South, East, West
  - Focus distance
  - Type of film/digital camera used
  - Lights/flash used
  - Weather conditions
  - Number of exposures/digital prints
  - Photographer's identification





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- To completely document the scene, there are three types of photographs investigators use:
  - Overall photos
  - Mid-range, evidence-establishing photos
  - Close-up photos



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## ➤ Overall photos

- Pictures show the general condition and layout of the scene by depicting orientation and important landmarks.
- The best way to capture the entire scene is to provide overlapping coverage.
- This is achieved by starting at one corner of the scene and taking a photo of the opposite corner.
- The process is repeated for each corner of the scene.
- Two rounds of overall photographs are taken:
  - 1) The first set is of the scene in its original condition.
  - 2) The second set includes evidence markers and/or scales.

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**Figure 10** Overall photograph of vehicle scene

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- Midrange, evidence-establishing photos
  - Midrange photographs are evidence-establishing photos.
  - Photos are of evidence in conjunction with obvious landmarks at scene.
  - Photos show the evidence's relationship to overall scene.
  - Photos include landmarks; appropriate evidence markers are also present.
  - Photos show the orientation of evidence to other pieces of evidence in overall scene

**Figure 11**

Midrange photo of vehicle scene



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## Close-up photographs

- Close-up photos are composed of a single piece of evidence or wound.
- The entire frame is of the item of interest.
- Ideal close-ups provide as much detail as possible while retaining the identity of the evidence.
- They should be taken with and without a scale of reference.
- They can also be taken in the lab where light and the environment are controlled to highlight specific details, e.g., serial numbers or fine blood mist.

Figure 12 Close-up photograph evidence with marker



Figure 13 Close-up photograph evidence with marker

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## Video recording

One might ask, “If the scene is already documented visually with photographs, why video record as well?” There are many advantages to video photography:

- It provides a more realistic view of the scene.
- It shows the “atmosphere” of the scene, especially with the addition of narration.
- It can be used to record suspects’ statements so they can’t change their stories, prove Miranda was administered, and document the length of the interview.
- Videos are used for recording dying declarations.

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- More advantages to video photography include the following:
  - It is helpful for documenting lineups.
  - Videos help juries to experience the scene exactly as the investigator saw it.
  - It shows any processing methodology or analysis performed at the scene.
  - The investigator can play back the recording while still at the scene to ensure complete coverage.

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- Video photography uses the same principles as photography.
  - Start with an overall recording of the scene and progress to close-ups.
  - The scene is also recorded with and without evidence markers, and video is made of any changes to the original scene.
  - Use landmarks, scales, evidence markers, and proper focus to identify the evidence.
- Avoid rapid movement and excessive zooming in and out because these actions detract from the video's quality and efficacy.
- Both digital/still photography and video photography are vital elements of crime scene documentation.



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- Video recording allows investigators to provide an objective and comprehensive view of the scene.
  - Keep in mind that video recording of the crime scene is an accessory tool for documentation.
  - Video recording can never replace the utility and resolution of a photograph.
  - Video recording cannot provide the same detail and definition that a photograph does.

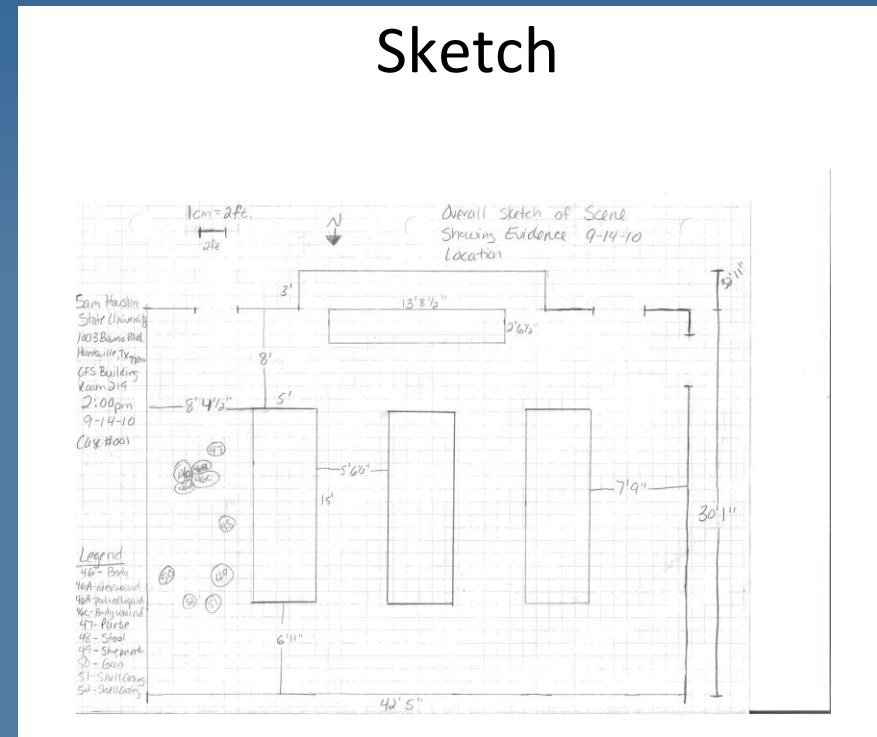
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Methods in sketching and mapping the scene

- Sketch
  - A crime scene sketch should
    - clearly show the layout of the scene and the relationship of all features pertinent to the investigation;
    - illustrate the location of collected evidence and the measurements of the components of the scene (wall, doors, windows, etc.); and
    - show the paths of entry, exit (windows, doors, and stairs), and movement throughout the scene.
  - There are two types of sketches used for scene documentation: rough and finished.

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- The rough sketch
  - depicts the dimensions of the scene, highlighting the location of all objects that might impact the case;
  - includes all recovered physical evidence marked in the sketch with letters or numbers;
  - shows accurate measurements obtained from two fixed locations in the scene; and
  - includes a compass designation, legend, and title.



**Figure 14** Rough sketch  
Rough sketches are prepared while the investigator is on scene.

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- The finished sketch
  - includes components of the rough sketch;
  - is precise and aesthetic;
  - is viewed in court;
  - is submitted as evidence, along with the rough sketch;
  - is drawn to scale;
  - does not contain measurements like the rough sketch does;
  - is usually designed when the investigator returns to the lab; and
  - may be accomplished using a computer program.

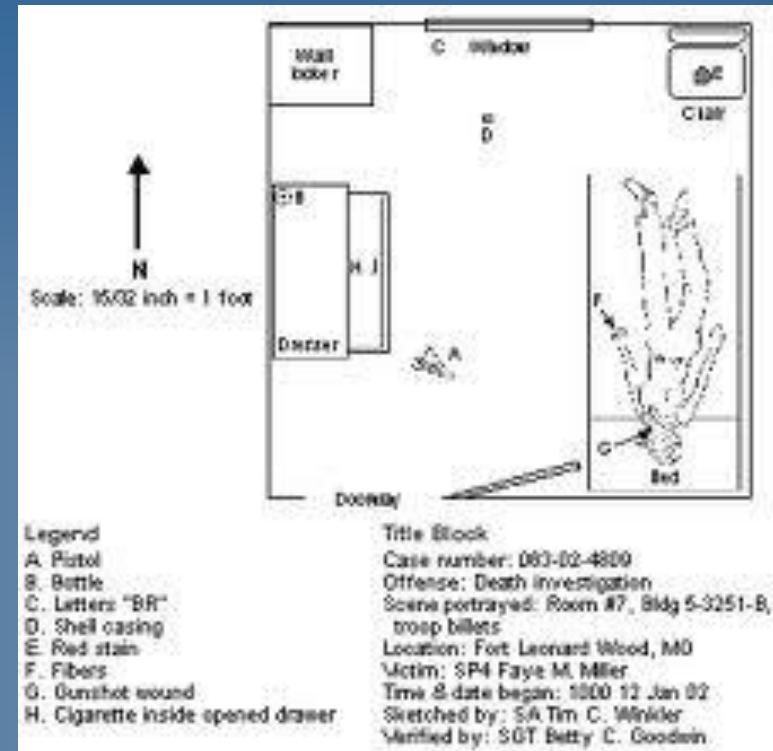


Figure 15 Finished sketch

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- Computer-generated sketches
  - support the investigator's photographs and notes,
  - complement the final report,
  - help reconstruct the scene for later analysis,
  - increase in detail proportionate to the severity of the crime, and
  - will be in-depth and to scale for major crimes.



Figure 16 Computer-generated sketch



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## Mapping

- Crime scene mapping is the process of measuring and recording the associated locations of all important items of evidence in the scene.
- The objective of mapping is to arrange all the elements of evidence in the actual scene.
  - The sequence of the crime scene processing is critical.
  - The photographs come before sketching and mapping, always.
  - To perform the mapping, arrange all the evidence first, and later you can measure the walls and furniture.
  - Document the length, width, and height of the walls, doors, windows, openings, and furniture.

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- The most common methods of mapping include
  - rectangular coordinates,
  - triangulation,
  - baseline coordinates,
  - polar coordinates,
  - triangulation or rectangular coordinates on a grid, and
  - triangulation in a baseline.

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- Rectangular coordinate mapping
  - This is best used in interior scenes with clear boundaries, e.g., walls.
  - Two measurements are made from the evidence to the surrounding walls and surfaces, at right angles.
  - It is less precise than triangulation, as the measurements are performed from the center of mass of the objects.

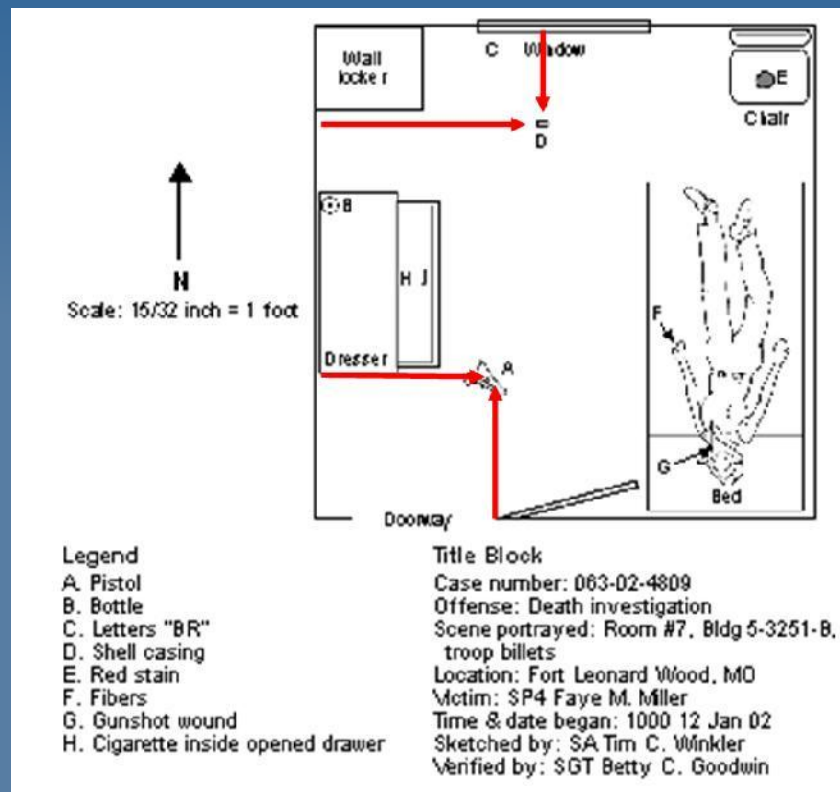


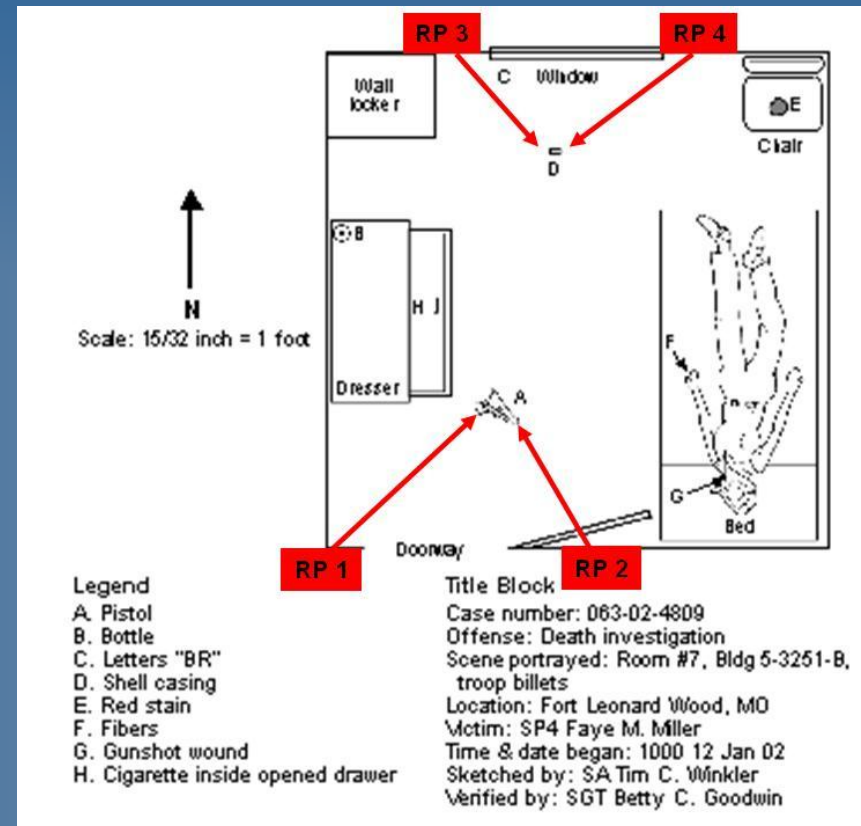
Figure 17

Rectangular coordinates mapping



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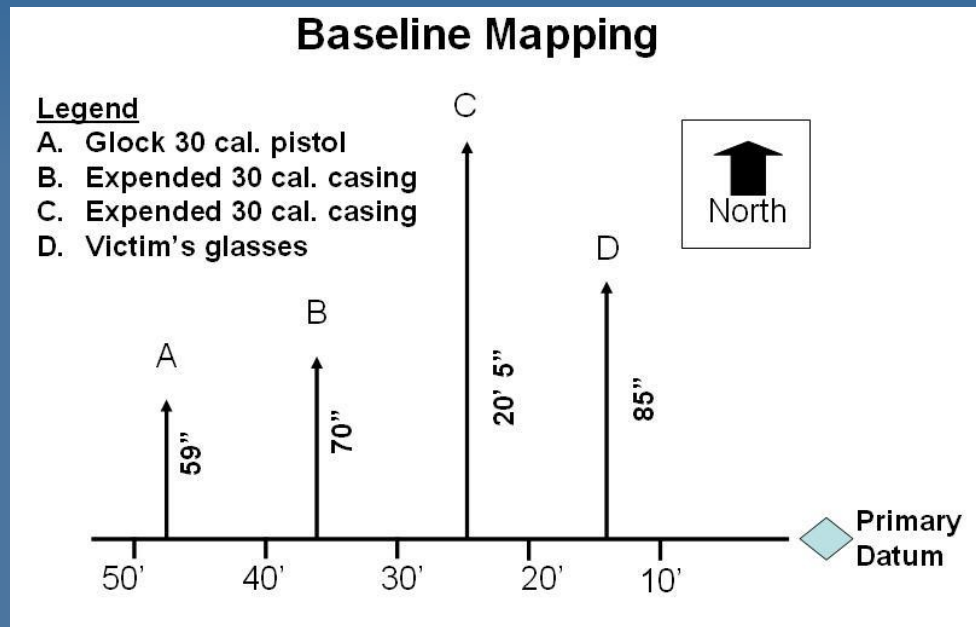
- Triangulation mapping
  - It is best utilized in scenes with evident landmarks.
  - This is the most precise mapping method because it fixes the regular shaped objects in a specific position.
  - It is time-intensive, since it requires more measurements than rectangular coordinates.
  - The number of measurements depends on whether the object's shape is regular or irregular.



**Figure 18**  
Triangulation mapping

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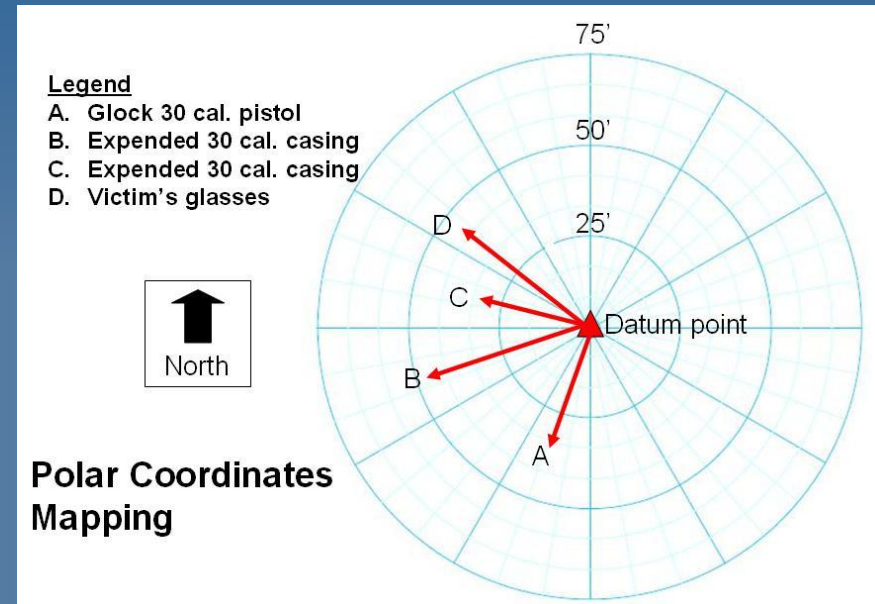
- Baseline mapping
  - This method is best used in exterior scenes with limited landmarks.
  - A baseline is extended from a datum point in a cardinal direction.
  - A single measurement is made from the evidence to the baseline at a right angle.
  - This method is not appropriate for interior scenes.



**Figure 19**  
Baseline mapping

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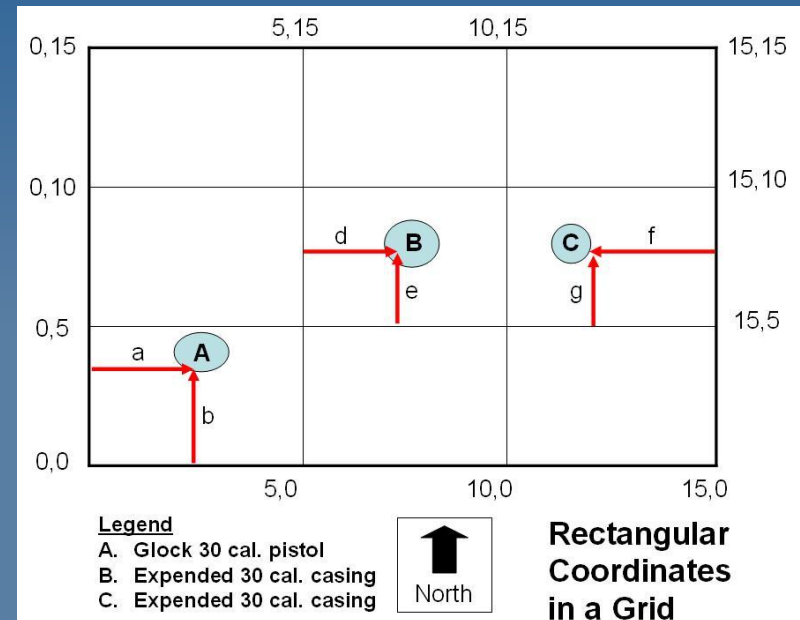
- Polar coordinate mapping
  - This method of mapping is best used in exterior scenes where evidence is scattered over a relatively open area.
  - This method requires a surveying instrument, e.g., compass laser or sighting transit.
  - The angle and the distance from a reference point to the evidence are measured with the device.



**Figure 20**  
Polar coordinate mapping

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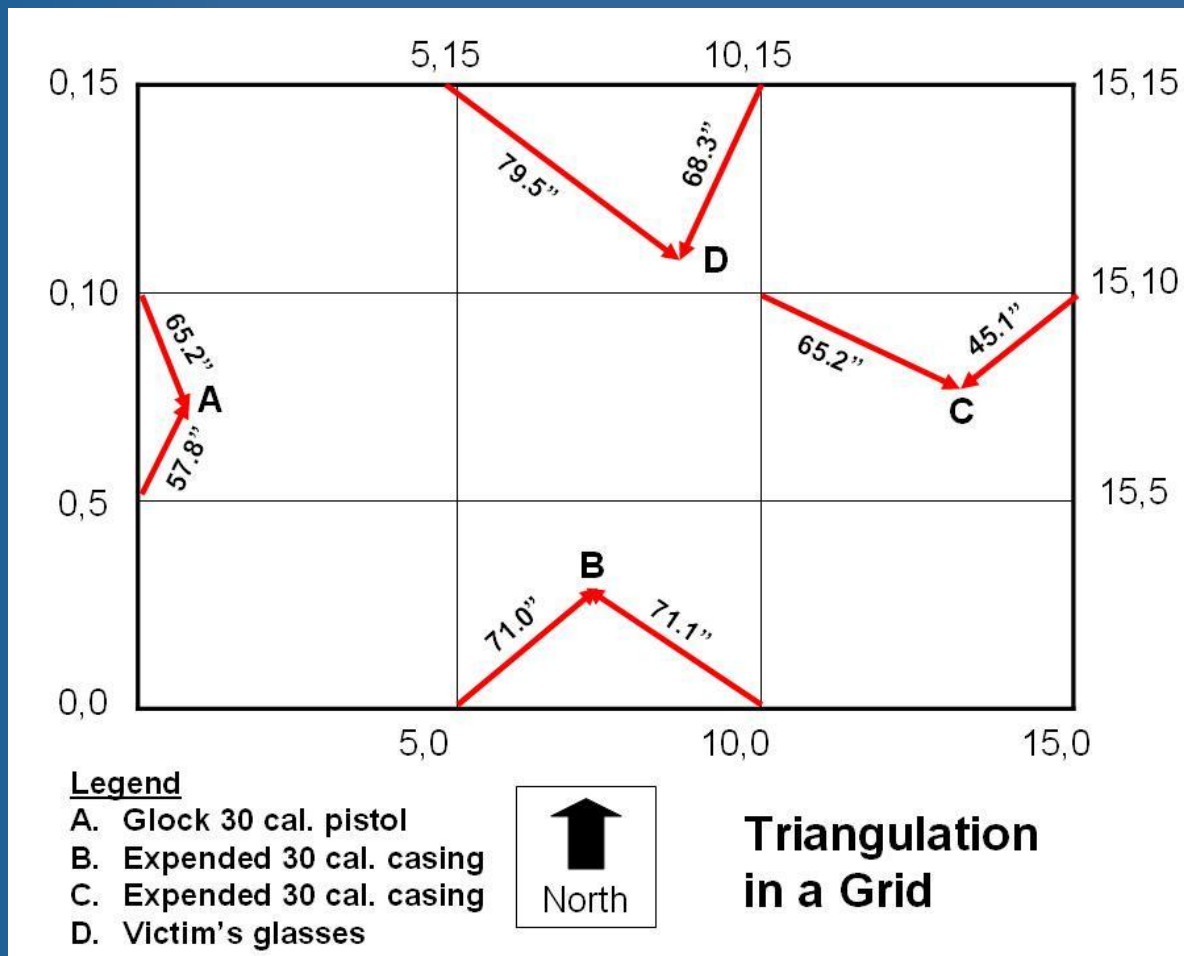
- Rectangular/triangular coordinates on a grid
  - This method can be applied to large scale scenes and grave sites.
  - The first requirement is to establish a grid with lines that are perpendicular.
  - A grid is based on standard Cartesian coordinates and usually the upper right quadrant is used for measurement.



**Figure 21**

Rectangular coordinates on a grid

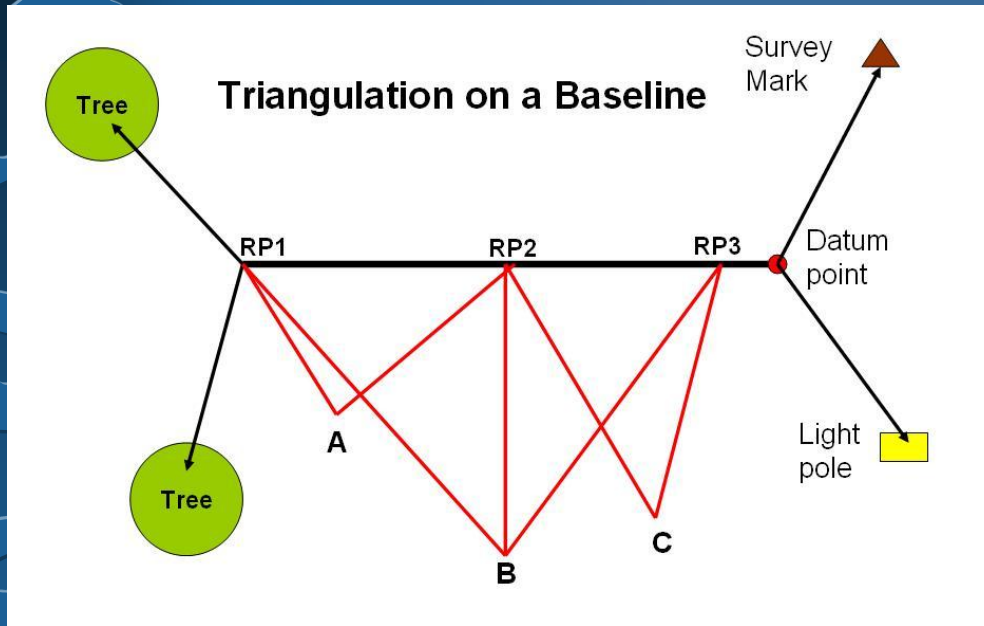
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**Figure 22**

Triangulation in a grid

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**Figure 23**

Triangulation on a baseline

- Triangulation on a baseline
  - This mapping method is very good for exterior scenes with a field of evidence not too widely scattered.
  - A datum point is chosen for location of the baseline.
  - The baseline is created in a standard fashion and both ends of the baseline should be established.
  - Reference points are determined on the baseline as needed.

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## Crime Scene Notes versus Reports

- Crime scene notes
  - Crime scene notes are taken by the investigator at the scene, while the crime scene report or final report is prepared after the scene is processed back at the investigator's office.
  - Both are submitted as evidence and can be used in court.
  - Notes are useful to the investigator as a way to record anything that cannot be documented by photography, video, or sketch.
  - Notes are the basis for the investigator's final report.
  - Anything written in the final report should be supported by the notes; there can never be too many notes.

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- Crime scene notes, continued:
  - Notes might also include logs made at the scene. The following are examples:
    - Security logs that show all who enter and exit the scene
    - Photography logs that document details of each photo
    - Mapping logs that document the location and measurements of evidence
    - Evidence logs that document all information regarding each piece of recovered evidence
    - Scene checklists that list all major tasks to be performed at the scene
  - It is important that the notes be detailed, accurate, objective, logical, and organized.



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- Crime scene notes, continued:

- The following are important items included in the investigator's notes:
  - Crime notification information
  - Activities performed upon arrival
  - Actions taken at the scene, e.g., steps taken to process the scene
  - Detailed observations
  - Changes made to the scene
  - Analysis techniques and their descriptions
- Notes used alongside photographs and sketches will corroborate and support one another.



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- Crime scene reports
  - The crime scene report is a summary of pertinent facts, investigator's observations, processing techniques, and actions. The final report will not be as detailed as the investigator's notes, but will touch on all major aspects and convey the scene to the reader. Every agency has its own format for the report, but most include the following:
    - An introduction including who processed the scene, the scene location, the time and date, and the reason the scene was processed
    - Scene characteristics which are general descriptions of the scene, including permanent and changing factors

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- Crime scene reports, continued;
  - Every agency has its own format for the report, but most include
    - scene conditions which are an objective documentation of specific conditions important to the investigation, e.g., cleanliness, smells, evidence, blood, etc.;
    - environmental conditions such as temperature, precipitation, natural disasters;
    - entry and exit factors that include known and conceivable entrances and exits to/from the scene; and
    - documentation like descriptions of the specific methods used to document the scene.

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- Crime scene reports, continued:
  - Every agency has its own format for the report, but most include
    - physical evidence collection describing what evidence was recovered and from where;
    - latent fingerprint search describing where investigators attempted to lift and the methods used to lift prints; and
    - additional processing techniques which may include blood spatter analysis, ballistics, ALS search, presumptive tests for blood, and the results of these processes.
- The report is an objective consolidation and synopsis of the important details of the scene.

# End of Module 3C

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