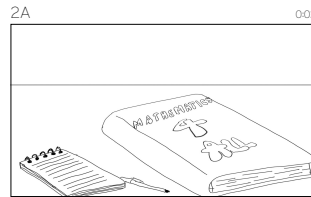
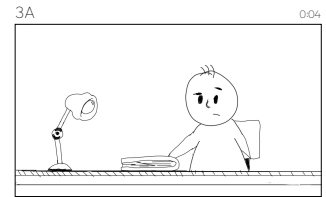


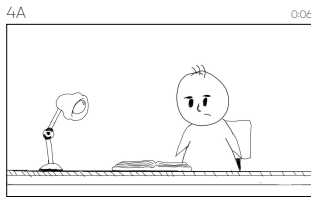
Student about to study and do his math home work



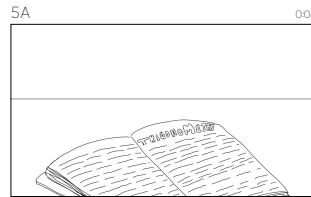
This is a mathematical home work. For all. Trigonometry



Student is about to work on his problem on his own without much understanding of the subject.

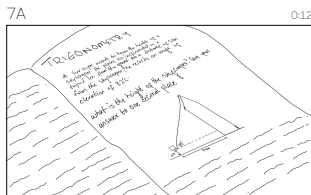
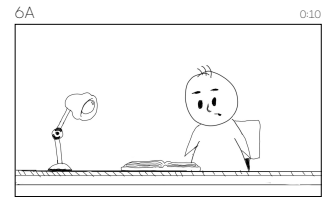


He opens the textbook to the page of the assignment.

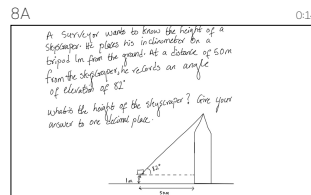


The problem is a trigonometry problem.

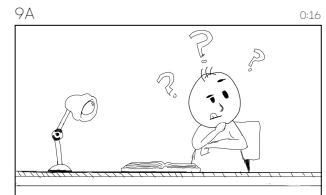
Starting with the introduction to the subject and key principles.



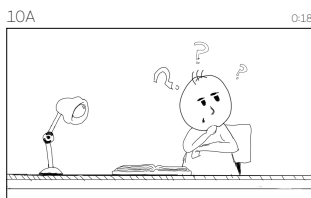
This is a normal trigonometry problem, stating and using real world scenarios and objects.



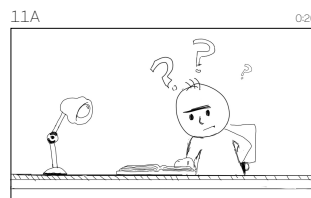
A clearer view of the trig. problem. Image below is a 2D representation of the problem. Using shapes and lines



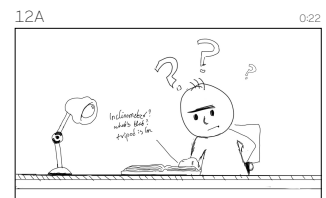
Student is trying to understand the problem.



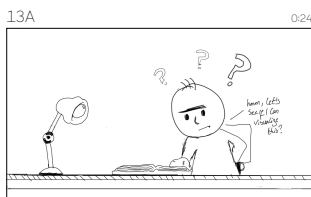
He doesn't quite understand the question and the image that is used to illustrate the problem.



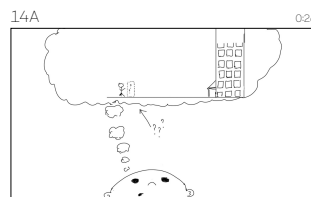
Hmm, he looks back at the question again.



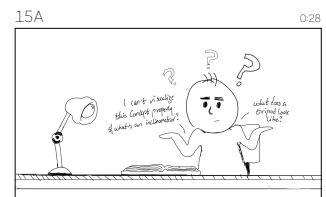
Like most student, he doesn't know what these things are or how they look.



He tries to visualize the concept to see if he can better grasp.



He can imagine a building, but he doesn't know what a tripod is or what a inclinometer is or looks like. Also, what sort of building would it be anyway?

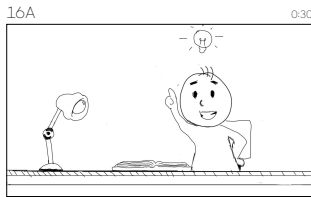


The student is missing some important aspect of his trig. problem because he can't visualize most of it.

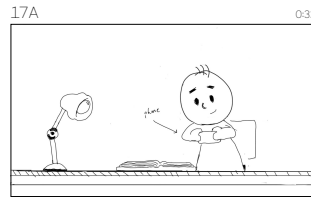
How can he solve this problem.

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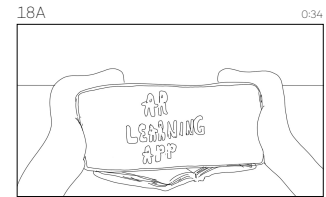
Boards: 31 | Shots: 31 | Duration: 1:02 | Aspect Ratio: 16 : 9
DRAFT: OCTOBER 11, 2023



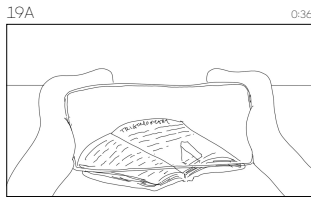
Student has an idea of how he can solve this problem using AR.



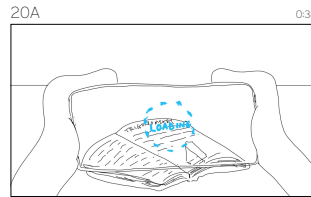
He pulls on his mobile device (phone, or tablet).



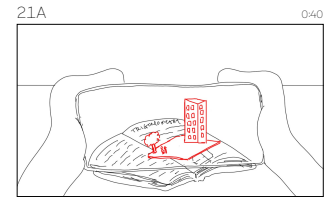
The AR app is the starting up.



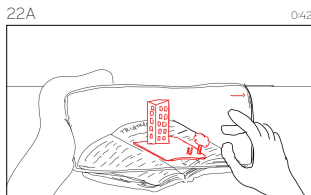
Using the mobile device camera to view the math problem.



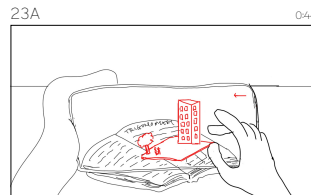
Using the image or a feature as a trigger the AR app begins to load the virtual content.



A virtual representation of the math problem is placed on the pages of the textbook. Superimposed on the image on the pages.

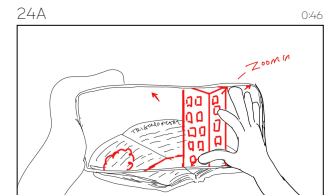


The system can be interacted with using hand gestures on the screen on the mobile.

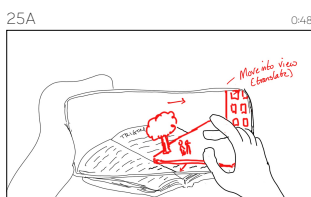


sliding the hand on the screen to take object back to it's default state or show another part of the models from the right.

Function #1: Sliding their hand on the screen, the virtual content rotates to reveal the other side or perspective of the model.



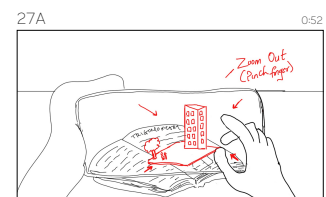
Function #2: Expanding the thumb and middle finger to zoom in on the model, having a much clearer view of the model.



in the zoomed in state the student can slide hidden aspect of the content into view.



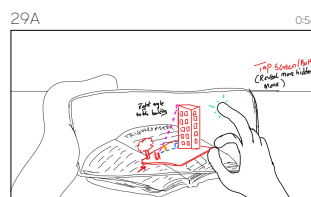
extended the fingers again allows the student to zoom in further on content. Now, he can see what most of the things he didn't know look like.



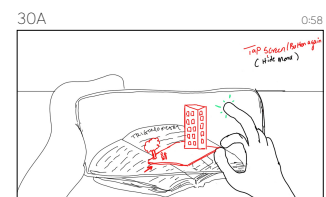
Function #3: pinching the fingers together zooms out of the content and brings it to normal view.



Tapping the screen (still under review), or on a button reveals more hidden features or information for further understanding.



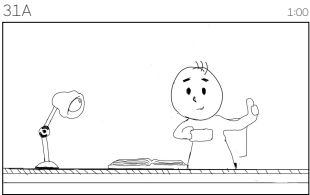
By tapping on the screen, lines and mathematical information is overlaid on the existing content. Now student can see the right angle triangle and the labels on them.



Tapping on screen or using the button hides the content on the screen.

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End off the AR app demonstration.