T- test Q. Suppose a child psychologist say that the average time working mother spend talking their children is up to 11 minutes per day. To test the hypothen's you took a random sample of 5.230 20 working mother and found average time they spent is 11.5 minutes. The sample standard deviation is 2.3 min. Corduct test with 5.1. level of Significance (d=0.05) Stop-1 Ho! MSII, HA711 H=11.5, N=20, S=2.3 Step-2 $d = 0.05 \rightarrow 5.1. \rightarrow 0$ he tail test dof = 20-1=19. Step-3 - t-test $\Rightarrow + \text{statiu} = \frac{\overline{x} - H}{S / \sqrt{n}} = \frac{0.5}{2.3 / \sqrt{20}} = \frac{0.5}{0.514} = \frac{0.97}{0.514}$ Step-4 tailied Corresponding 0.05 do, =19, one buil kot t cuitive = 1.729 Condun'm > We fail to reject to. rejertin region The any time working mother Spend is Ellning. toribe =1.729

O do the hobitation. He average TO is 100 A team
In the population, the average IQ is 100. A team of ossearchers want to test a medicine to check
the tree or we alked on intelligence in carble of
the tre or -re effect on intelligence. A sample of
30 participants who book medicine has a mean IQ
of 140 with Slandard devh of 20. Did the medicition
affect the Intelligence. Test hypotheris with 5% alpha.
Step-1 Ho; H=100, HA: H +100
(Feb-2 + wo fail text dal n-1 = 30-1 = 20
$SFep-2$ + wo tail test, $d \circ f n-1 = 30-1 = 29$
Step 3 t - test
Step 3 t-test ts fatishis = $\frac{72-H}{5/5n} = \frac{140-100}{20/530} = \frac{40}{3.65} = \frac{10.96}{3.65}$ Step 1 - torihid = 0.045
S/In 20/130 3.65
Stepy - toritical = 2.045.
courses 2.005, two tail = 2.043.
reje him region
Step-5 tout 7 touthal, 10.9672.045 toutil 2.045. tolding 10.96
tstar 7 toritial, 10.9672.045 (wild 2.045. tslating
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we rejut Ho.
Conclusion - Reject the Ho., the medicine has effect on
IQ.