ltem#	Rationale		
1	Option/Assorrect		

ltem#		Rationale
2	OptionScorrect	Todeterminéh@robabilitý(hovlikelijitshastom@ventvilbccur)vchoosin@purpl@owfronth@boxth@studenshouldhavéoundh@otahumbeotbowisth@box $(5 + 1 + 4 = 10)$.Thestudencouldhavéherfoundh@ationfh@umbeotbowisth@oxtoh@otalnumbeotbowisth@oxtoh@otalnumbeotbowisth@boxindvrittenthisash@raction $\frac{4}{10}$ Wherreducedthisfractionisequatio $\frac{2}{5}$.
	OptionFishcorrect	ThestudenNikely foundh@robabilityochoosingpinNoov/romth@ox(5/10 1/2)Thestudentheed\$docussnattending/dh@letailsoffn@question/nproblem\$hatequire thestudentt@letermin@robability.
	Optionhilisincorrect	ThestudenNikel∳oundh@probabilitø&hoosin@plu@bov/romth@box(tofocussnattending/oh@letailsofh@questioninproblemsthatequir@thestudentodetermine probability.
	Optionilisincorrect	Thestudentlik elýoundhærobabilityølNOTchoosingepurplæov/romthæoxobows $\frac{6}{10}$ whichreduceso $\frac{3}{5}$ hestudentheedstøocusonunderstandinghov/rodetermine/heoreticalprobabilities.

Item#		Rationale
3	OptionDecorrect	Tøleterminéhathisstatemenitsupporteðlyhénformationinhéoxplots(datælisplayshat showthæninimumfirstpuartilemediant,hirdpuartile, andnaximunøsetsødata)t,hestudent shouldhavæalculatedhénterquartilæangédifferencebetweenthéhirdpuartilændhéirst quartilæseddatajobottboxplotsThénterquartilæangæthælatáo204@yeaoldsis 150 - 110 = 40 andhénterquartilæangæthælatáo507@yeaoldsis 125 - 95 = 30The interquartilæangæthælatáo204@yeaoldsis 125 - 95 = 30The interquartilæangæthælatáo204@yeaoldsis
	Option/kisncorrect	Thestudenlik elyeversedhæelationshipbetweenthæangestdifferencebetweenthænaximum valuændminimumvaluæteach sebtlata)ofhetwodatæetsintheboxplotThestudentchose thestatementhasays 170 – 90 o80essthan 145 – 75 o7 OnsteadoffhæppositeThe studentheedstdoccusomattendingtohæletailsdansweoptionsthaddescribælatæresentedin comparativeboxplots.
	Option Briencorrect	The studentikelyeversedhæelationshipbetweenthænedian svalu eforwhickhal of fhe numbersine ackse of dat ær egre at ean dhal far dess of fhe wood at æet sinthe oxplot The studen chose hest at ement has a yst 30 dess shart 10 nst ea doffne opposite The student need stoo cusorattending otheletailss fanswe options had escribed at apresente din comparative oxplots.
	Option@sincorrect	Thestudenlikelyeversedhæelationshipbetweenthæninimunvaluesofhæwodatæetsinthe boxplotThestudenthosehestatementhasays@uteesthar75insteadofhæppositeThe studentheedtsdoccusorattendingtohæletailssansweoptiontshaddescribælatæpresentedin comparativeboxplots.

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ltem#		Rationale
6	OptionH iscorrect	Todeterminethathistatemenitsupportedbythenformationinthegrapht, hestudenshould haveoundthenumbersofremiunmembershipsoldturing/Veekand/Veekandcompared themTherever&@premiunmembershipsoldturing/Veekan2&premiunmembershipsold during/Veek2Sinc&@equald2ime&5thenumbeopfremiunmembershipsoldturing Weekava&imeshenumbeopfremiunmembershipsoldturing/Veek2.
	OptionTisincorrect	Thestudenlikelynisinterpreted75% norefore an75 noreThenumbeoppremium memberships solduringVeekkva95 Week(20)Since $\frac{95}{20}$ = 4.75 thenumbeoppremium membershipsolduring ofhenumbeoppremium membershipsolduringVeekkvas475% ofhenumbeoppremium membershipsolduringVeekkvas475% understandinghov/rodetermingercentages/vhersolving/roblems/sing/ataepresented/bar graphs.
	Option Grancorrect	Thestudenlikelyniscalculatedheotahumbeominembershipsolduring/Veekotheotal numbeominembershipsolduring/Veek2Theotahumbeominembershipsolduring/Veek4 was 55 + 20 = 75andheotahumbeominembershipsolduring/Veek2vas 45 + 25 = 70The studennteedsoccusmperformingcalculationsaccuratelywhersolvingproblemsusingdata representedabagraphs.
	Optionikincorrect	Thestudenlikelymisinterpreted35esshanŽasincrease85membershipsTheotanhumber ofmembershipsoldduringVeek4vas155 (60 + 95 = 155) whichs55morethanhe120 membershipsoldduringVeek3 (70 + 50 = 120) Thestudentheedsofocussnunderstandinghow tousevordsikelesshanŽadescribeelationshipsbetweendatarepresenteätbagraphs.

Item#		Rationale
7	OptionDecorrect	Todeterminetheutcomeéxactlywoofheoinshowingheadsubtheex120rialsthestudenshouldhavéirstdeterminedhexperimentaprobability/hovlikelyiishatareventvilloccuduringarexperimentforonthelatainheableWhentheoinsverélipped@imesturingthexperimentfromthelatainheableWhentheoinsverélipped@imesturingthexperimentfromthelatainheableWhentheoinshowingheads@imesThestudencouldhavesedheation1@ubd@andhevariablextoepresentheunknowquantityonakeapredictionforf2@rialsbysettingupanesolvingh@roportion(comparisonofworatios) $\frac{16}{40} = \frac{x}{120}$ Thestudencouldhavese@asscaléacto(anumbersedasmultiplieoaquantity)since40 x 3 = 120 andhermultiplied16 x 3 toindh@redictionforf2@rialsThismeanshaifhexperimenisepeated2@imesth@redictionishather@vould@d@imeswhentheoinsvouldandvittexactlywooinshowingheadsTheationaléotheorrectanswerisar@fficientwaysolveh@roblemHowevepthemethodsould@assedsolveh@roblemcorrectly.
	Option/Asincorrect	Thestudenlikelynultipliedheheoreticaprobabilityateoinlandingvithheheadsideut/50%) byhel20trialsinsteadotisingheactualesultsofhetirs40trialsonakeprediction, resultingh60Thestudentheedsofocusonvhentouseexperimentaprobabilitiesonake predictionsandvhentouseheoreticaprobabilitynproblems.
	Option Baincorrect	Thestudenlikelyaddedhenumbeoobutcomes showingheaddohenumbeoobutcomesshowingheads $(13 + 16 = 29)$ Thestudencouldhaveusedheatioo290uo400000000000000000000000000000000000

Item#		Rationale		
	Option®s	incorrect	Thestudenlikely/usedherumbeoobutcomesshowing?tailsinsteadoffrerumbeoobutcomesshowing 2head\$13)Thestudencouldhave/usedheraticoll Sub4@onakeh@redictionbysetting/pandsolvingh@roportion $\frac{13}{40} = \frac{x}{120}$ since 40 x 3 = 120 andhermultiplied13 x 3 toindh@redictionforl2@rials39dheheheheh9.2 (studentT277 ctl49.24 (ptick))	proport

Item#		Rationale
8	Option hiks orrect	To determine here unbeoliters gasolin & hrisbough the studen could have used hereration3.8 itersofgallorand herevariable g to expresent heur know quantity and herse trandsolved here proportion (comparison fivoratios) $\frac{3.8 iters}{fgallon} = \frac{g \text{ liters}}{10.4 gallons}$ used 0.4 asscale facto (an umberuse dasmultiplie of quantity) since1 × 10.4 = 10.4 andtherm ultiplied3.8 × 10.4 tode termine here umbeoliters 39.52 Therational éoth correctanswer isarefficient values olve the problem. How every the method scould be used to solve theproblem.
	OptionFishcorrect	Thestudenlikely/sedhecorrectscale/actobutnad കുരു rowhermultiplying 0.4ാഗ്ര. കുഗ not/singplaceholdeoz/eror,esulting/11.44/iters/nstead/89.52/itersThestuden/teeds/o focusprunderstandinghov/accurately/nultiply/ahree-digin/umbeby/awo-digin/umber.
	Option@sincorrect	ThestudenNikelydivided 0.4ാഗ്ര.പ്പെടേമേൽ/multiplying 0.4ാഗ്ര.പ്പെdoundedh@nswer, resulting/2.74/itersThestudentheedsofocusprunderstandinghov/യെടെ; converbetweermeasuremenstystems.
	Optionitisncorrect	Thestudenlikelyadded 0.4an നോഷ് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാ Thestudentreedsoccus nunderstanding how തെടുന്ന പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പോല്ലാന് പ Measuremens systems.

Item#	Rationale			
9	OptionAssorrect	Todeterminehenumbelinehabestepresentshesolutiontohenequality thestudencoulohavesolvedhenequality/subtractin@00fronbothsidesofhenequality, resultingn 125 x 1,000 and herdividingbothsidesofhenequality/GS0.704 t	125 x + 200	1,200 ,

Item#	Rationale		
10	Optionäls correct	Todeterminehediagranthabestepresentsheelationshipamonointegersnaturahumbers, rationahumbersanotvholenumbersthestudenshouldhaveusedheunderstandinghathatural numbersthecountingnumberst234etc.areaubseofwholenumbersthecounting numbersanotero)wholenumbersareaubseofintegerstabositiveanondegativenumberswith nofractionadodecimapartsanotero)anointegersareaubseofationahumberstnumbers thacatoreepresentedotyhedivisionofwointegers)Thisdiagranshowstheseelationships.	
	OptionFisincorrect	ThestudenNikelyunderstoodhantaturantumberæræsubseowivholenumbersbudionto understandhaintegeræræsubseovifationantumbersThestudennteedsolocuson understandingsetændsubsetsovifationantumbers.	
	OptionGrancorrect	Thestudenlikelymisinterpretedheelationshipsbetweemationahumberandhesubsetsof rationahumbersThestudenheedsolocusonunderstandingsetaandsubsetsofationahumbers.	
	Option hilis incorrect	ThestudenlikelyeversedhæelationshipbetweenwholenumberændhaturahumbersThe studennteedstoccuspnunderstandingsetændsubsetsofationahumbers.	

Item#	Rationale		
11	Optionescorrect	Taletermineheotasiurfacærea(totasimounespaceoveredbyhsurfaces)ofhetriangular prisninsquareentimetersthestudenshouldhaveneasuredhetimensionsof trianglestoheneareshalkentimeterTheectanglesnheefandighothenet (two-dimensionalvievosihree-dimensionalfigure)areongruen(samshapændsize)andhave abase2.5mandaheighotaboutcmTheectangleintheentehasbase02manda heighotaboutcmThetriangulabasesthetriangleintheottomotheprismandhetriangleit theopotheprism)areongruentandeacthasbasedengtto&mandahetighot2mThe areasofhe rectangles A = bh	theectangleand

Item#		Rationale
13	OptionAssorrect	—

Item#		Rationale
14	Optionhitscorrect	Todeterminehæreæ(amounotspaceoveredby)hæirculaheadofhæailthætudent shouldhaveusedhéormulaothæreækeircle

Item#		Rationale
15	OptionDesorrect	Todeterminebyvhapercentagehepricevaseducedthestudencouldhaveoundheamountthesweatervasliscounted, $20 - 12 = 8$ andlividedhisvaluebyheoriginacosofhesweater,resultingn $\frac{8}{20} = 0.4$ Thestudenshouldhavehereonvertedhelecimavalueepercentagebymovinghelecimapointwoplacesoheright;esultingr40%TheationaleothecorrectansweisarefficientvayosolveheroblemHowever;thermethodscouldbeised/solveheproblemeorrectly.
	OptionA is	thesweaterwastiscounted\$8asthøercentagethatthørice waseducedThestudentheedsofocusonunderstandinghovtofindthøercendtecreas@ivenan originapriceandaeduceørice.
	Option Brancorrect	

Item#		Rationale
16	Option@scorrect	TodeterminewhichstatemeninsNOTsupportedbythedatanthetablethestudenshouldhave

Item#		Rationale
Item# 17	OptionAssorrect	Rationale Todeterminehæquationrepresentinghæelationshijbetween x and y inthegraphthestudent could havedentifiedhæatædchange(ratioofhæhange in -yaluesdnæhangein x-values) andhe y-valuevhen x = 0 ofhegraphedinændvrittenhæquationinhéorm y = mx + b, where m representshæatædchangænd b representshe y-valuevhen x = 0Tdindhæatæf changethe studencouldhaveisedhæpoints (0, -3) and (4, -6) andoundhæationfhærertical distance(upandlown)dhænorizontadiistance(eftwight)Thererticadiistancetweenthese twpointssunitspindhehorizontadiistanceteleftwight)Thererticadiistancetweenthese -3/4. The y-valueis -3 when x = 0Substituting -3/4.

Item#		Rationale
19	OptionB iscorrect	TodeterminePhillip•snetvorththestudentshouldhavesubtractedheotaliabilitiesshownonthe netvorthstatementronthetotaalssetsshownonthenetvorthstatement (113,000 – 71,500 = 41,500);esultingnPhillip•snetvortho\$41,500.
	Option/kisncorrect	Thestudenlikelycombinedheotaalssetsandheotaliabilitiesshownonthenetworthstatement (113,000 + 71,500 = 184,500)Thestudentheedsofocusonunderstandinghownodeterminenet worthusingenetworthstatementototaliabilitiesandtotaalssets.
	Optior@sincorrect	Thestudenlikelyusedhevalueofheotaliabilitiesshownonthenentvorthstatemen(\$71,500) -

Item#		Rationale
20	Optionfiscorrect	Todeterminehscaleusedo createhscaledrawingofheibrarythstudencouldhave comparedheengthofheibrarynhscaledrawingoheengthofheactualibrarynoticing that Inchesepresents? &eetThstudencouldhavehendividedeachof noticing

Item#		Rationale
21	Optionescorrect	

Item#		Rationale
22	14.4and any equivalentvaluesare correct	Todeterminéhenumbeoácres/fandusedocornthestudencouldhavéirstusedhæircle graphóindhæercentage/fandusedocornSincéhæntiræircl@raphtepresents100%the studencouldhaveubtractedhæercentages/fanduseinthæircl@raphtocottonwheatand othefrom100%resultingin $100 - 40 - 20 - 10 = 30$ Thismeansha80%offhéandisusedor cornThestudencouldhavehemmultipliedheotahumbeoácresusedoplantingi48bythe decimæequivaleno80%(0.30)resultingin $48 \times 0.30 = 14.4$ Thismeansha14.4acresoffhe landareusedocornTheationaléothæorrectansweisarefficientvatycsolvehæroblem.

Item#		Rationale
23	OptionAssorrect	Т

Item#		Rationale
24	Optionhitsorrect	Todeterminéhevalue $6\frac{3}{4}$ -11.5) the student could have hange dhele cimalvalue-11.5 tothen ixed number $-11\frac{1}{2}$ The student could have here hange do timixed number stimp roper-11.5 tofractions and nultiplied resultingin $(\frac{27}{4} \times (\frac{23}{-2})) \stackrel{27}{=} -\frac{\times 23}{4 \times 2} = \frac{621}{-8}$ The student could have herechange dhém prope fraction anixed number resulting $-77\frac{5}{8}$ The ational éotheorrect
		answeinsæfficientvatycsolvehæroblemHowevenothernethodscouldbeusedosolvehe problencorrectly.
	OptionFishcorrect	Thestudent likely made a sign errowhenmultiplying;esultinojmapositivevalueinsteadová negativevalueThestudennteedsolocusonunderstandinohownonultiplyvationanhumbers.
	Option@sincorrect	Thestudentikelynultiplie@ yb1.5; esulting 69Thestudenthentikely: arried=vethefraction $\frac{3}{4}$ and didhotusehenegativesign; esulting n $69\frac{3}{4}$ Thestudentheed solocusonunderstanding overanding
	Optionilisincorrect	Thestudenlikelynultipliedby –11.5 r,esulting in –612hestudenthertikelycarriedovethe fractionm a de —

ltem#		Rationale
25	OptionAscorrect	TodeterminewhichprobabilitystatementisruethestudenshouldhavéoundheprobabilitystJustimeinigipaicturewithisfriendsandheprobabilitystJustimeinigipaicturewithisfriendsandheprobabilitystThealbunhas@pictureshowinglustinesriendsandlustinistfriendsandhemwhichmeanshaheisr15ofhemThisprobabilitys $\frac{15}{50} = \frac{30}{100} - \varphi 80\%$ Thealbunhastfamilyandlustinistfriendsandheistfamilyandlustinist $\frac{15}{50} = \frac{30}{100} - \varphi 80\%$ Thealbunhastpictureshowinglustines $\frac{15}{50} = \frac{30}{100} - \varphi 80\%$ Thealbunhastfamilyandlustinist $\frac{12}{100} - \varphi 12\%$ Theprobabilitysgreatethantheprobabilitystelectingpictureshowinglustinwitthistamily(12%).
	OptionBaincorrect	Thestudenlikelyusedhenumbeoppicturesinhealbumhashowonlylustin(8)ashe probability ostelectingpicturehashowslustinThestudennteedstoccusorsolvingproblems involvingproportionalelationshipsusingquantitativepredictionsfronsimplexperiments.
	Option@sincorrect	The studentikelýoundhærobabilitøøpicturehashowslustinvithistamilý12%andhe probabilitøøpicturevithan ødlustin+striends ($\frac{30}{50} = \frac{60}{100}$ o60%)nsteadøpicturevithonly Justin+striends ($\frac{15}{50} = \frac{30}{100}$ o80%)Thestudenthertikelyeversedhæelationshipvhen comparing 2%and60%getting $\frac{60\%}{12\%} = 5$ insteadof $\frac{12\%}{60\%} = \frac{1}{5}$ Thestudentheedsdocuson

ltem#		Rationale
26	Optionhilscorrect	Todeterminehexpressionthatepresentshevaluef

Item#	Rationale	
27	OptionB iscorrect	Todeterminéhesolutionsetthestudencouldhavéirssubtracted @ronbothsidesofheinequality;esultinigin $-8x > -56$ Thestudencouldhavéherolivide dothsidesofh énequality $-8W$ herarinequalityslivide doga egative numberthén equalitysignise versed This tepresult sinthesolution do hén equality, which is $x < 7$ The ational éotheorre can sweisanefficientiva y colve heproblem However, othermethod scould deused solve heproblemcorrectly.
	Option/kisncorrect	Thestudenlikelýollowedallheorrecstepsosolvehenequalitybudiohoteversehe inequalitysignThestudentheedsofocusonusingallheorrecstepsosolveaninequality.
	Optionଭିକncorrect	Thestudenlikelysubtracted Oronth defisidenth en equality but added Oronth defisidenth en equality in the end of th
	OptionDisincorrect	Thestudenlikelysubtracted Gronth defiside of the inequality but dde dd Goth eighside ofthe inequality in the instep resulting $-8x > 24$ The studenthen the local structure of the inequality -8 and correctly eversed the inequality is ign resulting $x < -3$ The studenthe eds focus nusing the orrect step sector equality.

n#		Rationale
28	Option F s correct	Tadeterminevhickstorevilhavehebowespricen/liresthestudenshouldhavealculatedhe pricéo/liresteackstoreusingheinformationinheableAStoreReachirehaspriceof \$150andhesalebuy&iresandgethe/thireeToindheotapriceo/liresthestudent couldhavenultiplie\$150byBresultingi\$450AStoreSeachirehasprices\$200andhe sale\$70bfeachirevher/teateboughtToindheotapriceo/liresthestudencouldhave subtracte\$70fron\$200resultingi\$130petireandhultiplie\$130byAresultingi\$520At StoreTeachirehasprices\$175andhesaleb200bffheotapricevher/lirestreought. Toindheotapriceo/liresthestudencouldhavenultiplie\$175byAresultingi\$700and subtracte\$200resultingi\$50AAStoreAeachirehasprices\$130andhesaleb10%off theotapriceo/liresthestudencouldhavenultiplie\$130by 4resultingi\$520andsubtracted 0%s520(\$52)fron\$520resultingi\$468Comparinghe totapriceo/lirestestoreesultsStoreAavinghebowespriceTheationaleothe correcansweisamefficientvayesolveheproblemHowevepthemethodssouldbeusedo solveheproblencorrectly.
	OptionConnect	Thestudenchoselhestorevithhehighespriceon4iresinsteadoffhetowespriceon4ires. Thestudentheedsolocusonanalyzingabofheinformationgiveninpproblemtodeterminethe bessaleprice.
	Optionhilisincorrect	Thestudenlikelýoundhøricéo4ireaStoreRvithoutegarddhædvertisedsale, resultinignprice\$600Thestudenalsdikelýool\$10ffheotapriceaStorei/nsteadof 10%offresultinignprice\$510ThestudenlikelydeterminedhaStoreRvithæaløriceof \$500hasheowespricen4iresThestudentheedsdocusonanalyzingabofhenformation giveninpproblemtodeterminehesestalørice.
	Optionäls I[9.2 (sale,)]TJ 1I2 Thestudenitidsto	? ([9.2 (s)649.2 (\$52 (took)64BDC 13.9 0 Td [(The)649.2 (salee,)]TJ 1I2 ([9.2 (s)649.2 (\$52 (took)645l[49.2 (the)64)/ce

Item#	Rationale
29	
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ltem#		Rationale
30	45andanyequivalent valuesare correct	Tadeterminéhæreæ{amoundépacæovere&y}hælrawingthætudencouldhave calculatedhæombinedareæfthérianglændhæcetanglæsinghéormulasothæreæá trianglændæcetangléromhæAreæection@fh&TAARGrad@Mathematic&ReferenceMaterialspagevithinthætudent•sæstbooklet ($A = \frac{1}{2}$ bhwhere $A \pm hæreæfhæriangle,$ $b \pm hæengthoffnæaseandh ±hæeigh(verticatlistancérontoptbottom)andA = bh whereA = theareæfhæectangle,b \pm hæengthøfhæaseandh \pm hæeight)Tøindhæreæfhætrianglethæengtløfhæase$mcouldæmultiplie&yhæeight@mandhultiplie&y\frac{1}{2},\frac{1}{2},resultingin\frac{1}{2}(5 × 6) = 15 squaræentimetersTøindhæreæfhæectanglethæstudencouldhavenultipliedhængtløfhæase12mbyhæeight2.$mr;esultingin12 \times 2.5 = 3015 + 30$

Item#		Rationale
31	OptionD iscorrect	TøletermineheotadistancehaPerryraveledthestudencouldhaveusedhéormuláor distancéromheAdditionalInformationsectionofheSTAARGradeMathematicsReference Materialspagewithinthestudent•sesbookle(d = rt where d = distance, r ≠atæspeedand t ±imeandnultipliedeachtatæspeed#milespehoubyhæmoundfimetraveled#that speedandaddedhæesultinglistancesPerryraveled#speedb5milespehoufo8.5hours, resultingradistanc@192.5niles 55 × 3.5 = 192.5)Hehentraveled#speedb60nilesper houfo2.5hoursresultingratotadistanc@150niles 60 × 2.5 = 150)Combininghese distancessesultsratotadistanc@842.5nilesTheationaléothæorrectansweisarefficient wayesolvehæroblemHoweverothemethodssouldbæisedesolvehæroblenæfficiently. speedsolvehæroblenæfficiently.
	OptionAsincorrect	Thestudenlikelyswitchedhæmounolfimetravelingsteachtatesspeedresultingin 55 × 2.5 = 137.5 mileænd 60 × 3.5 = 210 milesCombininghesælistancessesultstatotal distances847.5milesThestudentheedstofocusprattendingtohæletailsstanulti-step probleminvolvingproportionatelationships.
	OptionBoincorrect	Thestudenlikelycalculatedheotatimeas 3.5 + 2.5 = 6 hoursandhultipliedhistimebyheate ospeedo55nilespehour, esultingin 55 × 6 = 330 milesThestudentheedsdocuson understandinghovkrosolveproblemsinvolvingproportional/elationships.
	Option@ancorrect	Thestudenlikelycalculatedheotatimes 3.5 + 2.5 = 6 hoursandnultipliedhistimebyheate ostpeedo@milespehouresultingin 60 × 6 = 360 milesThestudenteedsdocuson understandinghovtosolv@problemsinvolvingproportionalelationships.

ltem#		Rationale	
32	Optionhils correct	Taleterminevhickstatemenisupportedbytheinformationintheloplotsgraphshatisedots tatisplaydata)thestudentouldhavealculatedhemear(thesumofhedatapointsividedby thermotheraluesepresentingthetatafoeactstoreEoEtordthestudencouldhavedetermined thesumofheraluesepresentingthetatafoeactstoreEoEtordthestudencouldhavedetermined (2(0) + 3(1) + 5(2) + 3(3) + 1(4) + 4(5) + 2(6) = 58)Thestudencouldhavethendividedthesum (58bythetumbeodtatapoints20)cesultingtmetame2.9EoEtore2thestudencould havedeterminedthesumoftheraluesepresentingthetumbeotchildren+sbookspurchased (4(0) + 6(1) + 4(2) + 2(3) + 1(4) + 2(5) + 1(6) = 40)Thestudencouldhavethendividedthesum (40bythetumbeodtatapoints20)cesultingtmetame2Themean@ftedata6Stord (2.9)tgreatetthanthemean@ftedata6Stord22)TherationaleationaleationaleationaleatiDAom(ationale)33ueaodtata2(+ e)649.2 (setfice	icioul

ltem#		Rationale
33	Option	Todeterminethevaluedthestudentouldhavesetijanstolvedproportion(comparisonoftworatios/comparingcorrespondingsideengths/fhesimilafiguretwo/digures/two

Item#		Rationale	
34	Optionilscorrect	Tødeterminehevalueshasatisfyhenequalitythestudencouldhavesolvedhenequalityfor x.	
		Thestudencouldhavesubtractedfrombothsidesoffheinequality resulting - $\frac{1}{2}x$ 2The	
		studen could have here ivide do the idensification of the equality $-\frac{1}{2}$ and ever set the direction of the	
		inequalitysymboloecauseoldivisionolygaegativeaumber, esultingin x -4Theyaluestron the	
		giversethasatisfythisinequalityarehosehaareessharoequato) -4	
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		_	
			_
		— — —	

Item#		Rationale
36	Optionilscorrect	Todeterminehovmanyinchesséteelwiræreneededomakespringthestudenshouldhave dividedhenumber ofinchesséteelwirælsedomakehesespring \$450 by henumbeofspringsnad \$300) $\frac{450}{300}$ which sequal bound
	OptionFishcorrect	Thestuden likely subtracte 300 for 450 before dividing resulting in studen the eds for 300 , which reduces $\frac{1}{3}$ The studen the eds for 300 resulting in $\frac{150}{450}$, which reduces $\frac{1}{3}$ The studen the eds for 300 resulting in $\frac{1}{3}$ The studen the eds for 300 resulting in $\frac{1}{3}$ The studen the eds for 300 results in $\frac{1}{3}$ The studen the eds for 300 results in $\frac{1}{3}$ The studen the eds for 300 results in $\frac{1}{3}$ The studen the eds for $\frac{1}{3}$ results in $\frac{1}{3}$ result
	Option®incorrect	Thestudenlikelydividedhenumbeospringsmad@300bythenumbeoinchess&teelvire used tomak@hesespring\$450);esultingin $\frac{300}{450}$ Thestudenthentikelymad@arerrowhen reducingh@ractionbycancelinguallhezerosinh@raction;esultingin $\frac{3}{45}$ whichreduceso $\frac{1}{15}$ Thestudentheeds@ocusonunderstandinghov@ralculat@unitat@iver@problem situation.
	Option hilis ncorrect	Thestudenlikelydividedhenumbeospringsnad@300 bythenumbeoiinchess&teelwireused tornak@hesespring\$450)Thisesultion $\frac{300}{450}$ which reduceso $\frac{2}{3}$ Thestudentheeds to focusonunderstandinghov tocalculateanitategiver aproblensituation.

Item#		Rationale
37	Option/Assorrect	Tødeterminehæircumferencæfhæirclédistancæroundhæircle)thætudenshouldhave usedhéormula fothæircumferencæfæircléronth@ircumferencæectionandhe approximationøfi (frontheAdditionalInformationsection@fh&TAARGradeMathematics ReferenceMaterialspagevithinthætudent•sestbooklet (C = dwhere C = hæircumference, d = thæliamete(straighlin@oinghroughhæenteofæircleonnectingwøointsothe circumference)and 3.14)Thisesultson C (3.14)(7.6) whichiæ3.seet.
	Option Baincorrect	Thestudenlikely used héormuláo areá a moundépace overed y surface) insteado fine formuláo circumference. The studenlikelý irsdetermined hatheadiu (distancéron the centeto heircumference de ircle) S. & eeby lividing heliameteo 7. & eeby 2. The the studenlikely calculated heralue of hexpression 'x (3.8) ² which as value de proximately 45. & eet The student heed solo cus nunderstanding which formula apply icalculations involving ircles.
	Optior@sincorrect	Thestudenlikelyconfusedh@iverdiameteo?Sash@adiustanc@romth@centetothecircumferenc@sacircle)Thestudenlikelyusedh@ormula $C = 2$ r andsubstituted?fesultingin $C = 2 \times 16$ 47.7feetfeetfeetbetweenth@adiusandh@lameter.
	OptionDisncorrect	Thestudenlikelydeterminedhæadiuskdistanceronthæentetothæircumferencææircleby dividinghæliameter off. 6eeby2resultingr3. 8eetThestudenlikelyusedhæadiusinstead ofhæliameteinthéormularesultingin × 3.8 whichhasvaluæapproximatelyl 1. 9eet. Thestudentheedsofocussrapplyinghæorrectormulaæalculatehæircumferencææircle.

Item#	Rationale		
38	OptionG iscorrect	Todeterminewhichinference@conclusionbasedmevidence)bsestupportedbytheinformation intheablethestudentshouldhavecomparedthenumbeoffreshmenwhochoseEducationas theimajo(60)dohenumbeoffreshmenwhochoseScienceOtheatheimajo(55)The numbeotstudentsvhochoseEducationatheimajo(60)greatethanthenumbeotstudents whochoseScienceOthe(55)atheimajosothestatemenitsupportedbytheinformation.	
	Option	ThestudenlikelyeadlesshanŽasequadoživhercomparinghenumbeofreshmenvhochose Englislassheimajo(50)øhenumbeofreshmenvhærdundecideøhheimajo(50)The studentheedsøocusorattendingøhedetailssánsweoptionstproblemsthatequirethe	

ltem#	Rationale		
39	Optiones correct	rectangulabase, b representshehicknessofhebaseand h repr Theareaofhebasesepresentedbyhexpression 2 × 9whicthasav	V = Bhw,here V ≢he h ≢heheight e A representsheareaonfhe esentshewidthonfhebase).
	OptionAkincorrect	Thestudenlikelyaddedhegiverdimensionsr, esultingin 15 + 2 + focusorunderstandinghowksolveproblem9.2 (studenh3esers.) Tj EM(Optiproblem)	9 = 26Thestudennteedsto 9.2 (studenh3e Tf 1855 -1.6 Td r65t)]TJ

Item#	Rationale		
40	Option fiscorrect	Tødeterminethæquationtha¢anbæiseddóindythæstudenshouldhavéirstunderstoodhatthæxpression\$9.50/deaclshirtŽæquivalent@.5/imeshøumbeoshirtsboughandhatthæxpression®ane-timéeæ\$22.50/othælesignŽepresentsheinitialostartingvalueThenumbeoshirtsboughisepresentedbyxşothéotacost,y, is 9.5 x + 22.5 Thereforetheequatiorisy = 9.5 x + 22.5 .	
	Optior@sincorrect	Thestudenlikely $y = 22.5 x + 9.5$ Thestudenteedstocusresulting $y = 22.5 x + 9.5$ Thestudenteedstocusrepresentinearelationship $y = mx + b$.	
	Option hils incorrect	Thestudenlikelysubtractedhoene-timéeéronthoeostorx shirtsinsteadotaddingtresultinginthoequation $y = 9.5 x - 22.5$ Thestudenteedstoccusorunderstandinghovtroopresentinearrelationshipsusingequationsinthéorm $y = mx + b$.	
	Optionalisincorrect	Thestudenlikelyeversedheelationshipbetweentheosobéachshinandhene-timéeaand subtracteoihsteadvaddingresultinginheequation y = 22.5 x - 9.5 Thestudentheedsoocuosn understandinghovrooepresenlinearelationshipsisingequationsinheform y = mx + b.	