Client Money and Asset Return (CMAR)

This annex contains *guidance* on the *CMAR* and is therefore addressed only to a *firm* which is subject to *SUP* 16.14.

General

Terms used in the *CMAR* bear the meaning ascribed to those terms in the *Glossary*, even though they do not appear in italicised form on the face of the *data item*, unless a contrary indication is given in this *guidance*.

In applying the *CMAR* and this *guidance* to a *small AIFM's excluded custody activities* falling under *SUP* 16.14.4R(2)(e), any reference to a *firm* carrying on the *regulated activity* of *safeguarding and administering investments* includes *excluded custody activities*.

A *firm* is reminded that the effect of *SUP* 16.14.4R is that in relation to a *firm* to which *CASS* 5 (Client money: insurance mediation activity) and *CASS* 7 (Client money rules) apply, that *firm* should not report in the *data item* shown in *SUP* 16 Annex 29R any *client money* that it holds in accordance with *CASS* 5.

SUP 16.14.4R also has the effect that the data reported by a *firm* on the *CMAR* should only relate to *client money* and/or *safe custody assets* held by the *firm*, and should not relate to *client money* and/or *safe custody assets* in respect of which the *firm* merely has a *mandate* or any *safe custody assets* in respect of which the *firm* merely *arranges safeguarding and administration of assets*. The meaning of *safe custody assets* for the purposes of the *CMAR* and this *guidance* is set out in *SUP* 16.14.4R(2).

Firms are reminded of their obligation to determine their 'CASS firm type' categorisation in accordance with *CASS* 1A.2.2R.

A *firm* should include in any amount of *client money* that it reports any *client money* which it has allowed another *person* to hold or control in accordance with *CASS* 7.5.2R (for example, an exchange, *clearing house* or *intermediate broker*).

Reporting Period

The reporting period for the *CMAR* is the calendar month for which a *CMAR* is required to be completed in accordance with *SUP* 16.14.3R, including the first *day* and the last *day* of that month. For example, the January reporting period will be January 1 to January 31, regardless of whether or not any *day* in January is a *business day*.

Valuation

For the purposes of the *CMAR*, the *FCA* does not prescribe any particular methodology or frequency for valuing *safe custody assets*.

Reporting Client Money Balances using internal reconciliations

The *guidance* in this annex assumes that a *firm* uses the *standard method of internal client money reconciliation*. *Firms* that use a different method of internal reconciliation in accordance with *CASS* 7.6.7R should read the *guidance* in this annex in so far as it is consistent with that different method.

Where this *data item* requires a *firm* to report any *client money* balances, unless otherwise specified the *firm* should report on the basis of balances used for its internal reconciliation carried out on the first *business day* following the reporting period in question. This means using the values contained in the *firm's* accounting records, for example its cash book, rather than values contained in statements received from its banks and other third parties.

Currency

The reporting currency for this *data item* should be GBP (sterling). For the purpose of calculating the value of the total amounts of *client money* and *safe custody assets* that it holds on any given *day* during a reporting period, a *firm* should, in relation to *client money* or *safe custody assets* denominated in a currency other than sterling, translate the value of that *money* or that *safe custody asset* into sterling at the previous *day*'s closing spot exchange rate.

Section 1 Firm information

1 Name of *CASS* audit firm

A *firm* should report the name of the auditor that provides its client assets report (see *SUP* 3.10). It is not possible for the *CMAR* to list all auditors in this data field. However, certain auditors are named for convenience, and the *FCA* does not in any way recommend or endorse the auditors that are named. A *firm* should select 'Other' and complete data field 2 if its auditor is not named.

2 Name of *CASS* audit firm (if 'Other' was selected above)

If a *firm* selects 'Other' in (1), it should enter the name of the auditor that provides its client assets report (see *SUP* 3.10).

3 Did the *firm* hold *client money* during the reporting period?

A firm should state "Yes" or "No".

A *firm* should not take into account *client money* in respect of which it merely had a *mandate* in accordance with *CASS* 8 during the reporting period, or *client money* that it held in accordance with *CASS* 5 during the reporting period.

4 Did the *firm* safeguard and administer *safe custody assets* during the reporting period?

A firm should state "Yes" or "No".

A *firm* should not take into account *safe custody assets* in respect of which it was merely *arranging safeguarding and administration of assets* in accordance with *CASS* 6 during the reporting period.

5 Was the *firm* subject to a *CFTC Part 30 exemption order* during the reporting period?

A firm should state "Yes" or "No". Handbook provisions dealing with the CFTC Part 30 exemption order are set out CASS 7.4.32G to CASS 7.4.35R.

Did the *firm* operate the alternative approach during the reporting period (see *CASS* 7.4.14G to *CASS* 7.4.19G)?

A *firm* should state "Yes" or "No". *Handbook* provisions dealing with the alternative approach are set out in *CASS* 7.4.14G to *CASS* 7.4.19G.

7 Has the alternative approach been signed off by the *firm's* auditor?

A *firm* should state "Yes" or "No". *CASS* 7.4.15R provides that a *firm* that does not operate the normal approach must first send a written confirmation to the *FCA* from the *firm*'s auditor that the *firm* has in place systems and controls which are adequate to enable it to operate another approach effectively.

8A Type of business activity

A *firm* should identify in this data field the investment activities or services in the course of which it holds *client money* or *safe custody assets* belonging to a *client* and may do so using its own description of the activity or service in question.

In completing this data field a *firm* should use a separate row to distinguish between each type of business activity or service to which *CASS* 6 or *CASS* 7 applies, in a way that the *firm* considers reasonably appropriate.

The rows do not necessarily need to distinguish between *regulated activities* or *client* categories, and could for example reflect the distinctions between business lines that a *firm* makes in its internal management reporting or published accounts, or the different business units within the *firm*.

Where possible a *firm* should also identify, as a separate single business activity, any allocated but unclaimed *client money* or *safe custody assets* held by the *firm* which the *firm* continues to treat as such. This would include, for example, *client money* balances or *safe custody assets* held in respect of *clients* whom the *firm* is no longer able to contact. The firm should only use one row in this data field for this purpose (so the amounts stated in that row would reflect the aggregate of allocated but unclaimed *client money* or *safe custody assets* across all its relevant business activities or services).

8B Number of *clients*

In relation to each of the investment activities or services identified, a *firm* should report in this data field the number of *clients* for whom it holds *client money* or *safe custody assets* in respect of the activity or service in question.

If a *firm* holds *client money* or *safe custody assets* in respect of more than one activity or service for the same *client*, the *firm* should include this *client* in the number

reported for each activity or service as appropriate. This means that the same *client* may be reported for more than one activity or service in this data field.

8C Balance of *client money*

In relation to each of the investment activities or services identified, a *firm* should report in this data field the total amount of *client money* that it held belonging to *clients* in respect of the activity or service in question.

A *firm* should report *client money* balances on the basis of balances used in the internal reconciliation that the *firm* carried out on the first *business day* following the reporting period in question.

Paragraph 8A describes how allocated but unclaimed *client money* should, where possible, be identified as a separate business activity in its own row (together with allocated but unclaimed *safe custody assets*). The balance shown in that row may also include any balance that is included in data field 17.

8D Value of *safe custody assets* as at reporting period end date

In relation to each of the investment activities or services identified, a *firm* should report in this data field the total value of *safe custody assets* that it holds belonging to *clients* in respect of the activity or service in question, as at the last *business day* of the reporting period.

Paragraph 8A describes how allocated but unclaimed *safe custody assets* should, where possible, be identified as a separate business activity in its own row (together with allocated but unclaimed *client money*).

Section 2 Balances

9 Highest *client money* balance held during the reporting period

A *firm* should report the highest total amount of *client money* that it held at any point during the reporting period.

10 Lowest *client money* balance held during the reporting period

A *firm* should report the lowest total amount of *client money* that it held at any point during the reporting period.

Highest value of *safe custody assets* held during the reporting period

A *firm* should report the highest total value of *safe custody assets* that it held at any point during the reporting period.

12 Lowest value of *safe custody assets* held during the reporting period

A *firm* should report the lowest total value of *safe custody assets* that it held at any point during the reporting period.

In relation to data fields 9 to 12, a *firm* should ensure that it includes in the amount or value reported any *client money* or *safe custody assets* that it is holding or in respect of which it is *safeguarding and administering investments*, which has or have been placed with a third party *custodian*, either by a *custodian* with which that *firm* has deposited that *money* or those assets, or by that *firm* if it is a *custodian*.

In relation to data fields 9 to 12, a *firm* should determine the lowest and highest figures by reference to the data that it has recorded from internal reconciliations that relate to the reporting period in question.

Section 3 Segregation of client money

13A Type

A *firm* should identify the types of institution with which it has placed *client money*. *CASS* 7.4.1R identifies the type of institution with which a *firm* must promptly place into one or more accounts *client money* that it receives. *CASS* 7.5.2R identifies a limited number of circumstances in which a *firm* may allow another *person*, such as an exchange, a *clearing house* or an *intermediate broker*, to hold or control *client money*.

13B Institution where *client money* held

A *firm* should report the full name and firm reference number (if applicable) of the individual legal entity with which it has placed *client money*.

13C Client money balances

A *firm* should report the total amount of *client money* which it has placed with each institution identified in 13B.

A *firm* should report *client money* balances on the basis of balances used in the internal reconciliation that the *firm* carried out on the first *business day* following the reporting period in question.

A *firm* should include in the *client money* balance the aggregate balance of any allocated but unclaimed *money* which a *firm* continues to treat as *client money*. For example, *client money* balances held in respect of *clients* whom the *firm* is no longer able to contact.

The balance shown in that row may also include any balance that is included in data field 17.

13D Country of incorporation of the institution

A *firm* should report the name of the country in which each institution with which it places *client money* is incorporated using the appropriate two letter ISO code.

13E Group entity

A *firm* should indicate in this data field whether each institution with which it has placed *client money* is or is not a relevant group entity within the meaning of *CASS* 7.4.9BR. A *firm* should note that the definition in *CASS* 7.4.9BR is specific to *CASS* and the entities which comprise it may not be the same as those which comprise the *firm's group*.

Section 4 Client money requirement and resource

14 *Client money* requirement

In relation to a *firm* that follows the *standard method of internal client money reconciliation*, that *firm* should report its *client money* requirement, calculated in accordance with *CASS* 7 Annex 1G paragraph 6.

A *firm* should report its *client money* requirement on the basis of the internal reconciliation that the *firm* carried out on the first *business day* following the reporting period in question.

A *firm* should include in the *client money* requirement the aggregate balance of any allocated but unclaimed *money* which a *firm* continues to treat as *client money*. For example, *client money* balances held in respect of *clients* whom the *firm* is no longer able to contact.

The balance reported for the *client money* requirement should be inclusive of the balances that a *firm* is also reporting for data fields 15-18.

15 Unallocated to individual *clients* but identified as *client money*

A *firm* should report the amount of unallocated *client money* that it holds. Examples of this might include a *client* entitlement as described in *CASS* 7.4.27G or *money* received into a *client bank account* that has not yet been allocated to an individual *client*. A *firm* may be unable to allocate *client money* to an individual *client* on initial receipt of that *money* because of differences in trading hours, late journal adjustments or a failure by a third party to mark *money* (such as a dividend payment) that it sends to the *firm* as being for the account of the *client* in question.

16 Unidentified *client money* in *client bank accounts*

A *firm* should report the amount of *money* that is held in that *firm*'s *client bank* accounts and *client transaction accounts* which is the subject of enquiry by that *firm* to determine whether that *money* is *client money*.

17 Uncleared payments e.g. unpresented cheques sent to *clients*

A *firm* should report the amount of *client money* it holds in respect of uncleared payments to the *firm's clients* drawn on a *client bank account* of the *firm*. In this data field a *firm* should therefore include any uncleared cheques and other payable orders of any age, including electronic bank payments, in favour of a *client* but which have not been paid by the bank.

18 Excess cash in segregated accounts

A *firm* should report the amount of *client money* that it holds in *client bank accounts* and *client transaction accounts* which the *firm* included in its *client money* requirement as a result of the *firm*'s application of *CASS* 7.4.21R. A *firm* should not include balances for this data field that it is reporting in data fields 15-17.

19 *Client money* resource

A *firm* should report its *client money* resource on the basis of the *client money* resource used in the internal reconciliation that the *firm* carried out on the first *business day* following the reporting period in question (which should be the same internal reconciliation used by the *firm* to report its *client money* requirement in data field 14).

A *firm* should include in the *client money* resource the aggregate balance of any allocated but unclaimed *money* which a *firm* continues to treat as *client money*. For example, *client money* balances held in respect of *clients* whom the *firm* is no longer able to contact.

20 Surplus (+)/ deficit (-) of *client money* resource against *client money* requirement

A *firm* should report in this data field the amount by which its *client money* resource exceeds its *client money* requirement (to be reported in the *data item* as a positive amount), or as the case may be, the amount by which its *client money* requirement exceeds its *client money* resource (to be reported in the *data item* as a negative amount).

Where a surplus or deficit does not exist following a *firm's* internal *client money* reconciliation, the *firm* should report '0' for this data field.

Adjustments made to withdraw an excess or rectify a deficit identified as a result of an internal reconciliation.

A *firm* should report the amount of *money* that it added to correct a *shortfall* or, as the case may be, that it withdrew reflecting a surplus.

In relation to data fields 14 to 21, a *firm* should report by reference to the results of its internal reconciliations carried out on the first *business day* following the reporting period in question.

Data fields 15-18 relate to *client money* balances identified in a *firm's* accounting records, for example its cash book, that form part of the *client money* requirement reported in data field 14. Data fields 15-18 will not equal the *client money* requirement reported in data field 14

unless the balances reported for data fields 15-18 include all balances that are allocated to individual *clients*.

Section 5 Client money reconciliations

22 Client money internal reconciliation

A *firm* should identify in this data field the frequency with which it performs internal reconciliations.

23 Client money external reconciliation

A *firm* should identify in this data field the frequency with which it performs external reconciliations.

24 Client money unreconciled items

A *firm* should identify in this data field the number of unreconciled *client money* items and allocate each item to one of the specified time bands according to the length of time for which it has remained unreconciled.

For the purposes of this data field, the number of unreconciled *client money* items refers to the number of individual discrepancies/breaks identified as part of a *firm's* internal and external reconciliations which have remained unresolved for period of 6 calendar *days* or more. For the purposes of this data field unreconciled items should include any unresolved differences that have not yet been allocated to individual *clients* and any unidentified *client money* balances, but should not include items that were in fact reconciled by taking into account timing differences between a *firm's* own accounting records (e.g. cash book entries) and *client bank account* statements.

A *firm* should also report the balances of these individual unreconciled items as appropriate in data fields 15 and 16.

Section 6 Segregation of safe custody assets

In order to complete this section a *firm* will need to group the *safe custody assets* it held at the reporting period end date by the method of registration used (25A), the means by which the assets were held (25G) and the name of the institution with which the assets were deposited (25B). Each group of *safe custody assets* so identified should be reported as a separate row.

25A How registered

For each group of *safe custody assets* that a *firm* (in carrying on the *regulated activity* of *safeguarding and administering investments*) held at the reporting period end date, the *firm* should identify the method of registration it used in accordance with *CASS* 6.2.3R, by specifying one of the following categories of *person* in whose name legal title to the *safe custody assets* were registered during the reporting period:

- (a) the *client*;
- (b) the *firm*;
- (c) a third party;
- (d) a *nominee company* which is controlled by the *firm*;
- (e) a *nominee company* which is controlled by an *affiliated company*;
- (f) a *nominee company* which is controlled by an investment exchange;
- (g) a *nominee company* which is controlled by a third party with whom *financial instruments* are deposited under *CASS* 6.3 (Depositing assets and arranging for assets to be deposited with third parties).

Firms that registered the legal title to safe custody assets in joint names should select option (a) if one of those names is the client's name. If none of those names are the client's name then the firm should select an option that corresponds to any one of those named persons.

In relation to *safe custody assets* that a *firm* held in its physical possession and for which the *firm* did not register legal title (for example bearer notes), the *firm* should select option (b).

25B Name of institution where held

For each group of *safe custody assets* that a *firm* (in carrying on the *regulated activity* of *safeguarding and administering investments*) held at the reporting period end date, the *firm* should report, as relevant, the identity of the third party institution with which it deposited the *safe custody assets*. In relation to any non-dematerialised *safe custody assets* which it held in its physical possession, a *firm* should enter its own name in the data field.

In identifying any third party institution in this data field, a *firm* should ensure that it specifies the full name or the firm reference number (if applicable) of the individual legal entity with which the *safe custody assets* were deposited.

In relation to any dematerialised *safe custody assets* which a *firm* held as the sole *custodian* the *firm* should report the name of the central securities depositary where the *safe custody assets* were deposited, for example CREST, Euroclear, etc. and should select 'deposited with any other third party' when completing data field 25G.

25C Number of lines of stock

In relation to each combination of registration and holding method identified in 25A and 25G, a *firm* should report the total number of lines of stock being *safe custody assets* that the *firm* held at the reporting period end date. As a *firm* is only being asked to enter the total number of lines of stock in relation to each identified institution, it is not expected to identify separately *safe custody assets* belonging to an individual *client*.

For the purpose of this data field, a *firm* should treat each stock which bears its own CUSIP or ISIN number as a separate line of stock.

25D Value of *safe custody assets* as at reporting period end date

As at the reporting period end date, a *firm* should calculate the total value of the *safe* custody assets reported on each row and enter that value in the data field.

25E Country of incorporation of the institution

In relation to each institution identified in 25B, a *firm* should report the name of the country in which that institution is incorporated using the appropriate two letter ISO code.

25F Group entity

A *firm* should indicate in this data field whether each institution with which it placed *safe custody assets* is or is not a member of that *firm's group*.

25G Where held

For each group of *safe custody assets* that a *firm* (in carrying on the *regulated activity* of *safeguarding and administering investments*) held at the reporting period end date, the *firm* should identify in this data field whether the *safe custody assets* were:

- (a) held in the *firm's* physical possession (for example any non-dematerialised assets such as bearer notes);
- (b) deposited with a third party *custodian* (this may include any third party that has responsibility to the *firm* for the *safe custody assets*, such as a subcustodian or a fund manager);
- (c) deposited with a third party exchange;
- (d) deposited with a third party *clearing house*;
- (e) deposited with a third party intermediary; or
- (f) deposited with any other third party (where none of the above options adequately describe how the *safe custody assets* are held).

In relation to any dematerialised *safe custody assets* which a *firm* held as the sole *custodian* the *firm* should select option (f) and report the name of the central securities depositary where the *safe custody assets* were deposited, for example CREST, Euroclear, etc. when completing data field 25B.

Section 7 Safe Custody Assets Reconciliations

26 Safe custody assets unreconciled items

A *firm* should identify in this data field the number of unreconciled *safe custody assets* items and allocate each item to one of the specified time bands according to the length of time for which it has remained unreconciled.

For the purposes of this data field, the number of unreconciled *safe custody assets* items refers to the number of individual discrepancies/custody breaks identified as part of a *firm*'s external reconciliation which have remained unresolved for a specific period of time.

In relation to the 30-day field, a *firm* should report items which have remained unreconciled for at least 30 *days* but no more than 59 *days*.

In relation to the 60-day field, a *firm* should report items which have remained unreconciled for at least 60 *days*, but no more than 89 *days*.

In relation to the 90-day field, a *firm* should report items which have remained unreconciled for at least 90 *days*.

27A Method

In relation to each type of *safe custody asset* identified in 27C, a *firm* should report the method of internal reconciliation that it applied to that type of asset. *CASS* 6.5.2R to *CASS* 6.5.5R set out *rules* and *guidance* in relation to internal reconciliation methods.

27B Frequency

In relation to each method identified in 27A, a *firm* should report the frequency with which it conducted internal reconciliations using that method.

27C Type of safe custody asset

A *firm* should report the different types of *safe custody asset* that it held and may do so using its own description of an asset type.

Section 8 Record keeping and breaches

28 Client bank account

Client bank account has the same meaning as in the Glossary in the context of CASS 7 and CASS 7A.

28F Explanation of discrepancies

A *firm* should provide a brief explanation for any difference between the number of *client bank accounts* reported for 28D and the number of trust/acknowledgement letters to cover these accounts reported for 28E (see *CASS* 7.8.1R).

29 Client transaction account

Client transaction account has the same meaning as in the *Glossary*.

29F Explanation of discrepancies

A *firm* should provide a brief explanation where there is a difference between the number of *client transaction accounts* reported for 29D and the number of trust/acknowledgement letters to cover these accounts reported for 29E (see *CASS* 7.8.2R).

Did the *firm* fail to comply with any of the requirements set out in *CASS* 6.5.1R, *CASS* 6.5.2R, *CASS* 6.5.6R and CASS 6.5.10R?

A *firm* should indicate whether, at any point during the reporting period, it failed to comply with any of the requirements set out in *CASS* 6.5.1R, *CASS* 6.5.2R and *CASS* 6.5.6R.

If a *firm*, having carried out a reconciliation during the reporting period, failed to comply with *CASS* 6.5.10R, it should also record that fact in this data field.

CASS 6.5.10R provides that a *firm* must promptly correct any discrepancies which are revealed in the reconciliations envisaged by CASS 6.5 and make good, or provide the equivalent of, any unreconciled *shortfall* for which there are reasonable grounds for concluding that the *firm* is responsible.

32 If yes, was a notification made to the *FCA*?

If in data field 31 the *firm* has acknowledged a failure to comply with any of the specified *rules*, it should confirm in this data field whether a notification was made to the *FCA* in accordance with *CASS* 6.5.13R.

Where the *firm's* response to data field 31 relates to multiple instances of non-compliance, it should only answer "Yes" in this data field if all instances were notified.

Did the *firm* fail to comply with any of the requirements set out in *CASS* 7.6.1R, *CASS* 7.6.2R, *CASS* 7.6.9R and *CASS* 7.6.13R to *CASS* 7.6.15R?

A *firm* should indicate whether, at any point during the reporting period it failed to comply with any of the requirements set out in *CASS* 7.6.1R, *CASS* 7.6.2R and *CASS* 7.6.9R.

If a *firm*, having carried out a reconciliation during the reporting period, failed to comply with one or more of the obligations found in *CASS* 7.6.13R to *CASS* 7.6.15R, it should also record that fact in this data field.

CASS 7.6.13R to CASS 7.6.15R set out requirements which apply to a *firm* in relation to internal and external reconciliation discrepancies.

34 If yes, was a notification made to the *FCA*?

If in data field 33 the *firm* has acknowledged a failure to comply with any of the specified *rules*, it should confirm in this data field whether a notification was made to the *FCA* in accordance with *CASS* 7.6.16R.

Where the *firm's* response to data field 33 covers multiple instances of non-compliance, it should only answer "Yes" in this data field if all instances were notified.

In relation to data fields 31 and 33, a *firm* should answer "Yes" if it failed to comply with any of the *rules* specified in those data fields at any point during the reporting period in question, whether or not it is in compliance at the end of the reporting period.

A *firm's* responses to data fields 31 and 33 should only relate to breaches that occurred within the particular reporting period in question and not to any breach that may have occurred in a previous reporting period, even if the breach remains unresolved.

A *firm* should answer "N/A" as appropriate to data fields 31 and 33 if it did not hold *client money* or *safe custody assets* during the reporting period.

In relation to data fields 32 and 34, a *firm* should only answer "Yes" if the *firm* has acknowledged any breaches in data fields 31 or 33, and all such breaches were notified as required within the reporting period in question.

CASS 6.5.13R and CASS 7.6.16R require that the FCA be informed without delay of any of the matters in respect of which notification is required by those rules. Submission of the CMAR within the time limit specified in SUP 16.14.3R does not discharge the obligations in those rules and a firm remains obliged to notify the FCA as soon as it becomes aware that any of the circumstances described in those rules has arisen.

A *firm* should answer 'N/A' for data fields 32 and 34 if the *firm* has answered either 'No' or 'N/A' for data fields 31 and 33 respectively.

Section 9 Outsourcing and offshoring

In relation to its business that is subject to *CASS*, a *firm* should report in data field 35 outsourcing and offshoring arrangements that it has established which it judges to be material to that business, either by reason of their scale or their importance.

For the purposes of data fields 35A to 35D, 'outsourcing' refers to where a *firm* outsources part of its *client money* and/or *custody asset* operations to a third party and 'offshoring' refers to where a *firm's client money* and/or custody asset operations are managed through a *branch* established by it outside the *United Kingdom*.

Who do you outsource or offshore your *client money* and/or *custody asset* operations to?

A *firm* should state either:

- (a) the full name of the legal entity that business has been outsourced to; or
- (b) if the business is offshored, the name of the *firm* itself.

A firm reference number should also be provided for any *firm* which is authorised by or registered with the *FCA*.

Validation

Validation number	Data element	Sign	Formula
1	8B	>	0 (NIL)
2	8C(total)	=	$8CT = \sum 8C$
3	8C (total)	=	8CT=13CT
4	8D (total)	=	$8DT=\sum 8D$
5	8D (total)	=	$8DT = \overline{25}DT$
6	10A	<=	9A
7	12A	<=	11A
8	13C(total)	=	13CT=∑13C
9	20A	=	19A-14A
10	25D(total)	=	25DT=∑25D
11	28D	=	28A + 28B - 28C
12	29D	=	29A+29B-29C
13	30D(total)	=	30DT = 28D + 29D