

Care Skillsbase: Skills Check 18

Using Numbers in Care Work (A)

Interviewer's pack

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Summary	
Suitable for	Senior care/support worker, care/support worker
Skill checked	Number skills Skills Checks 18 and 19 both check number skills through problem solving. Choose the Skills Check that suits your organisation best. If you need to check number skills frequently, vary the Skills Check you use.
Covers	Care work problems involving numbers and calculation, including fractions and percentages
Learning for interviewer	Can the member of staff apply number skills to solve typical problems in care work?
Learning for member of staff	How number skills are used in care work
Approx time needed	Total: 30 minutes (15 minutes for Skills Check and 15 minutes for feedback)
How it works	Asks the person to use number skills to solve seven short problems typical of care work. Discuss the person's answers to check understanding.
Notes	Answers are included with the guidance overleaf.
Before you start	Read the general guidance in the Skills Check area of the Care Skillsbase website.

We welcome suggestions to improve this Skills Check. Please use the contact form on our website at www.scie.org.uk/careskillsbase

Using Numbers in Care Work (A)

Guidance

Use this Skills Check to find out if the person has the **number skills and knowledge** required for their job.

These problems offer the person an opportunity to use knowledge and skills relating to:

- four rules of arithmetic (addition, subtraction, multiplication, division)
- time (calculations involving hours and minutes)
- money (calculations involving pounds and pence)
- fluid measurement (ml)
- simple fractions (e.g. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$)
- decimal fractions (e.g. £1.50)
- percentages
- useful symbols and language (e.g. £ and % , 'packs', 'out of', 'dosage').

Check that the person understands that each problem offers three options:

- try to solve the problem by making calculations and arriving at an answer
- tick a box to show that they do not know how to solve the problem
- tick a box to show that they do not understand the question.

Say that at work it is not always possible to use a calculator and because of that you want the inductee to try to solve the problems without one.

Tell the person that no overall score is awarded. The point of the Skills Check is to see how they get on with the different problems.

Point out the instruction to note their workings. This will help you understand their answers afterwards.

Tell the inductee to spend about ten minutes on the Skills Check and not to worry if they can't do one or more of the problems. They should just move on to the next.

Tell them to let you know when they have done all that they can. If they have not finished after ten minutes, stop them anyway and ask them to show you how they got on.

Before you go through their answers (an answer sheet can be found below), ask the person what they thought of the Skills Check and if it seemed relevant to their work.

Note: Skills Checks 18 and 19 offer alternative sets of similar problems.

Answers

Note: The workings-out shown here are just one of the possible ways to arrive at a correct solution. There are other ways.

1. Coffee duty

Addition : $7+18+26+12 = 63$

Answer: 63 cups

2. Nell's vitamin supplement

Division: $30\text{ml} \div 2 \text{ daily doses} = 15\text{ml per dose}$; $15\text{ml dose} \div 5\text{ml per spoonful} = 3$
spoonfuls per 15ml dose

Answer: 3 spoonfuls

3. Ordering supplies

Division and multiplication:

Gloves: $40 \div 10 \text{ pairs per box} = 4 \text{ boxes}$

Washing up liquid: 2 packs of 3 washing-up liquid bottles give 6 bottles; 1 pack gives only 3 bottles = 2 packs needed

Tissues: $24 \div 4 \text{ boxes in a pack} = 6 \text{ boxes needed}$

Toilet rolls: box of 20 rolls $\times 6 = 120$ rolls; $\times 7 = 140$; 7 boxes needed for 125 rolls

Answer: 4 boxes of gloves, 2 packs of washing up liquid, 6 packs of tissues, 7 boxes of toilet rolls

4. Planning your work

Fractions, time, subtraction: 2 hours = 120 minutes; $\frac{1}{2}$ hour = 30 minutes; $\frac{3}{4}$ hour = 45 minutes; $\frac{1}{2} + \frac{3}{4} = 1 \frac{1}{4}$ hours or 75 minutes; 2 hours minus $1 \frac{1}{4}$ hours = $\frac{3}{4}$ hour; 120 minutes minus 75 minutes = 45 minutes

Answer: 45 minutes ($\frac{3}{4}$ hour)

5. Dementia training

Percentages, fractions, division: 50% = $\frac{1}{2}$; $\frac{1}{2}$ of 15 = $7\frac{1}{2}$; since you can't have half a person and seven is less than half the shift, eight people should attend the training.

Answer: 8 people

6. Cinema outing

Time, addition, subtraction: 10 minutes + 35 minutes + 15 minutes = 60 minutes (1 hour); 5 to 7 = 6.55; 6.55 minus 1 hour = 5.55

Answer: 5.55 p.m. (or 5 to 6 or 17.55)

7. Disinfectant supply

Fractions, subtraction, multiplication, division: 120 divided by 4 = 30; $\frac{1}{4}$ of 120 = 30; $\frac{3}{4}$ of 120 = 30 x 3 = 90; 120 - 90 = 30

Using Numbers in Care Work

Guidance

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- four rules of arithmetic (addition, subtraction, multiplication, division)
- time (calculations involving hours and minutes)
- money (calculations involving pounds and pence)
- fluid measurement (ml)
- simple fractions (e.g. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$)
- decimal fractions (e.g. £1.50)
- percentages
- useful symbols and language (e.g. £ and % , 'out of', 'dosage').

Check that the person understands that each problem offers three options:

- try to solve the problem by making calculations and arriving at an answer
- tick a box to show that they do not know how to solve the problem
- tick a box to show that they do not understand the question.

Say that at work it is not always possible to use a calculator and because of that you want the inductee to try to solve the problems without one.

Tell the person that no overall score is awarded. The point of the Skills Check is to see how they get on with the different problems.

Point out the instruction to note their workings. This will help you understand their answers afterwards.

Tell the inductee to spend about ten minutes on the Skills Check and not to worry if they can't do one or more of the problems. They should just move on to the next.

Tell them to let you know when they have done all that they can. If they have not finished after ten minutes, stop them anyway and ask them to show you how they got on. Before you go through their answers (an answer sheet can be found below), ask the person what they thought of the Skills Check and if it seemed relevant to their work.

Answers

Note: The workings-out shown here are just one of the possible ways to arrive at a correct solution. There are other ways.

1. Nell's vitamin supplement

Division: $30\text{ml} \div 2$ daily doses = 15ml per dose; $15\text{ml dose} \div 5\text{ml per spoonful} = 3$ spoonfuls per 15ml dose

Answer: 3 spoonfuls

2. Planning your work

Fractions, time, subtraction: 2 hours = 120 minutes; $\frac{1}{2}$ hour = 30 minutes; $\frac{3}{4}$ hour = 45 minutes; $\frac{1}{2} + \frac{3}{4} = 1 \frac{1}{4}$ hours or 75 minutes; 2 hours minus $1 \frac{1}{4}$ hours = $\frac{3}{4}$ hour; 120 minutes minus 75 minutes = 45 minutes; 45 minutes minus 10 minutes (to collect the prescription) = 35 minutes left

Answer: 35 minutes

3. Dementia training

Percentages, fractions, division: $50\% = \frac{1}{2}$; $\frac{1}{2}$ of 15 = $7\frac{1}{2}$; since you can't have half a person and seven is less than half the shift, eight people should attend the training.

Answer: 8 people

4. More work planning

Time, addition, subtraction: 10 minutes to first person (7.10) + 20 minute visit (7.30) + 15 minutes to second (7.45) + 20 minute visit (8.05) + 15 minutes to third (8.20) + 25 minute visit (8.45) + 15 minutes to office = 9.00 am

Answer: 9.00 a.m. – 10 minutes late

5. Stroke support group

Calendar, multiplication, addition: 2 weeks = 2×7 days = 14 days; 4th June +14 days = 18th June; 18th June + 14 days = 2nd July (18th June + 7 days = 25th June; $25 + 7 = 32$; June has 30 days)

Answer: Check 1: 18th June; Check 2: 2nd July

6. Working the morning shift

24-hour clock, addition: 07:30 to 10:15 = 7.30 a.m. to 10.15 a.m. = 2 hours 45 minutes; 11:00 to 14:30 = 11.00 a.m. to 2.30 p.m. = 3 hours 30 minutes; 2 hours 45 minutes plus 3 hours 30 minutes = 6 hours 15 minutes

Answer: 6 hrs 15 mins (or 6¼ hrs)

7. Medicine

Multiplication: 2 pills x 4 times a day = 8 pills a day; 8 pills x 7 days = 56 pills

Subtraction: 56 pills needed for 1 week; difference between 56 and 39 pills = 17

Answer: No, she is 17 pills short. She will run out of pills on the fifth day.

8. Pay rise

Percentages, division: 3% = 3 in every 100; 3% of £100 = £3; £50 is half of £100; half of £3 = £1.50; 3% of £50 = £1.50

Answer: Pat = £103; Chris = £51.50

9. Change for Mr Bolton

Money, decimals, addition, subtraction: $0.64 + 1.00 + 1.92 + 0.5 = 4.30$; $5.00 - 4.06 = 0.94$

Answer: £0.94

10. Earnings

Money, decimals, multiplication: $6.79 \times 8 = £54.32$; $6.79 \times 13 = £88.27$

Answer: (a) £54.32 (b) £88.27

Understand the Job: Using Numbers in Care Work (A)

For general use

Problem-solving is a vital part of health and social care work. Use this activity to learn more about typical problems and the **number skills** that help solve them.

First, write your name and today's date on the line below.

(First name)

(Last name)

(Date: Day-Month-Year)

.....

Please show your workings! Even if you can do the problem in your head, please note the calculations you made to help the interviewer understand how you solved the problem.

Example problem showing how to note your calculations

You work five days a week. You drive five miles to work and five miles back home each day. How many miles do you drive to and from work each week?

For your workings

Answer: *50 miles*

$$5 + 5 = 10 \text{ miles}$$

$$10 \times 5 \text{ days} = 50 \text{ miles}$$

or I don't know how to work this out

or I don't understand the question

Problems

1. Coffee duty

You are on coffee duty today. The order is: 7 black coffees, 18 white coffees, 26 teas and 12 hot chocolates. How many cups do you need?

For your workings

Answer:

or I don't know how to work this out

or I don't understand the question

2. Nell’s vitamin supplement	
Nell has 30ml of her vitamin supplement each day – half in the morning and half in the evening before she goes to bed for the night. How many 5ml spoonfuls does she take each evening?	
For your workings	Answer:
or I don’t know how to work this out <input type="checkbox"/>	or I don’t understand the question <input type="checkbox"/>

3. Ordering supplies	
Your organisation needs 40 pairs of gloves, 125 toilet rolls, 24 boxes of tissues and 5 bottles of washing-up liquid. There is an order form below. It shows how items are supplied. Complete the order form to make sure your organisation has what it needs.	
For your workings	
or I don’t know how to work this out <input type="checkbox"/>	or I don’t understand the question <input type="checkbox"/>

Order form		
Item	How supplied	Quantity ordered
Gloves	Box of 10 pairs	box(es)
Washing-up liquid	Pack of 3 bottles	pack(s)
Tissues	Pack of 4 boxes	pack(s)
Toilet rolls	Boxes of 20 rolls	box(es)

Understand the Job: Using Numbers in Care Work

For domiciliary use

Problem-solving is a vital part of health and social care work. Use this activity to learn more about typical problems and the **number skills** that help solve them.

First, write your name and today's date on the line below.

(First name)

(Last name)

(Date: Day-Month-Year)

.....

Please show your workings! Even if you can do the problem in your head, please note the calculations you made to help the interviewer understand how you solved the problem.

Example problem showing how to note your calculations

You work five days a week. You drive five miles to work and five miles back home each day. How many miles do you drive to and from work each week?

For your workings

Answer: *50 miles*

$$5 + 5 = 10 \text{ miles}$$

$$10 \times 5 \text{ days} = 50 \text{ miles}$$

or I don't know how to work this out

or I don't understand the question

Problems

1. Nell's vitamin supplement

Nell has 30ml of her vitamin supplement each day – half in the morning and half in the evening before she goes to bed for the night. How many 5ml spoonfuls does she take each evening?

For your workings

Answer:

or I don't know how to work this out

or I don't understand the question

2. Planning your work	
<p>You have two hours left on your shift. It will take you three-quarters of an hour to complete your work at Mr Brown's, then half an hour to travel to Mrs Kent's. It will take 10 minutes to collect Mrs Kent's prescription from the chemist. How long will you have left to complete your tasks at Mrs Kent's?</p>	
For your workings	Answer:
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

3. Dementia training	
<p>Your employer wants at least 50% of workers on each shift to attend a dementia training session. There are 15 people on your shift. What is the minimum number that should attend the training?</p>	
For your workings	Answer:
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

4. More work planning	
Your shift starts at 7 a.m. and you have three service users to see. Two have a 20 minute visit. The third has 25 minutes scheduled. Travel time between each person is 15 minutes and it takes you 10 minutes to travel to the first visit. They want you at the office at 8.50 a.m. It will take you 15 minutes to get to the office. What time will you get to the office? How late or early will you be?	
For your workings	<p>Answer: Arrive at office</p> <p>Amount of time early/late</p>
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

5. Stroke support group	
You take Mrs Lal to a stroke support group every two weeks. Imagine today is 4 th June and you have taken Mrs Lal to the group today. On what dates will you make the next two checks?	
For your workings	<p>Answer: Check 1</p> <p>Check 2</p>
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

6. Working the morning shift	
You came on shift at 07:30, had a break between 10:15 and 11:00 and left at 14:30. How long did you work (not including your break)?	
For your workings	Answer:

7. Medicine	
Miss Kay takes pills for her angina. There are 39 pills in her pill bottle. Her dosage is 2 pills, 4 times a day. Are there enough pills in her bottle for a week's supply?	
For your workings	Answer:
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

8. Pay rise	
Pat is a part-time carer who earns £100 a week. Chris is a part-time carer who earns £50 per week. Next month, both will get a 3% pay rise. What will each earn per week after the pay rise?	
For your workings	<p>Answer: Pat will earn</p> <p>Chris will earn</p>
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

9. Change for Mr Bolton	
Mr Bolton has asked you to do some shopping for him. Here's his list and the price of the items:	
biscuits 64p, soap £1.00, birthday card £1.92, magazine 50p.	
He gave you £5. How much change will you give him?	
For your workings	Answer:
or I don't know how to work this out <input type="checkbox"/>	or I don't understand the question <input type="checkbox"/>

Feedback form	Date:		
Staff member's name			
Staff member's job title			
Interviewer's name			
Interviewer's job title			
1. Interviewer's view The member of staff ...	No	Partly	Yes
a. Can solve typical care problems effectively.			
b. Can communicate effectively about typical care problems.			
2. Interviewer's reasons The member of staff ...	No	Partly	Yes
a. Understood the questions (knowledge of key words, symbols and concepts).			
b. Used number skills and knowledge to solve the problems; did not guess the answers (knowledge of how to solve problems).			
c. Gave the correct answer (ability to make accurate calculations).			
d. Wrote calculations and answers clearly (legibility).			
e. Completed the activity within the allocated time (ability to problem-solve quickly).			
f. Explained their answers clearly and coherently afterwards.			
3. Next steps to help develop skills and knowledge for the job	Yes	No	
a. Interviewer will arrange monitoring, feedback and support from a supervisor.			
b. Interviewer and member of staff will plan personal development to improve member of staff's understanding of key social care words and ideas.			
c. Interviewer and member of staff will plan personal development to improve member of staff's number skills and knowledge.			
4. Interviewer's signature	Staff member's signature		

Use the other side of this sheet for notes.

Personal development form	Date:	
Staff member's name		
Staff member's job title		
Interviewer's name		
Interviewer's job title		
1. Learning aim: to work safely and meet quality standards, the member of staff should develop the following number skills and knowledge	Tick (✓) if 'yes'	
a. Knowledge of key words, symbols and concepts (to understand problems).		
b. Maths methods (to solve problems).		
c. Ability to make accurate calculations (to solve problems correctly).		
d. Ability to write numbers that are easily readable (to pass on information).		
e. Ability to solve problems quickly (to cope with work situations).		
f. Ability to explain problems and solutions (to support team work and help service users).		
2. How will the learning happen?		
3. What support and resources will be needed to make the learning successful?		
4. When will the learning happen?		
5. How will we know the learning has been successful?		
6. Progress review date		
7. Interviewer's signature	Staff member's signature	