

DEFENDER

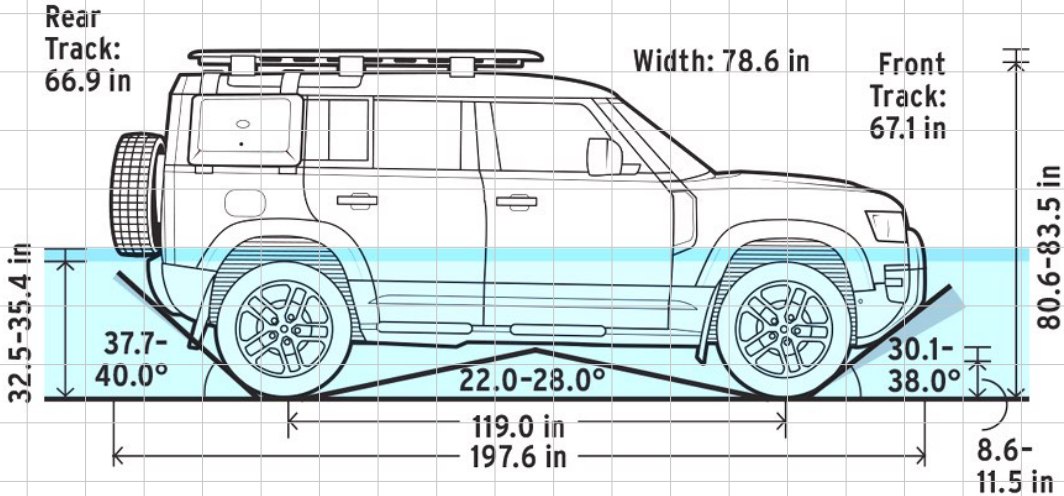


Owner	
Year	
Model	
VIN	
License	



DIMENSIONS

2020 Land rover Defender 110 SE



Fuel: Premium
24 Gal / 90L

Oil: SAE0W20
STJLR.03.5007

Tire Pressures:
Front: 34 - 47
Rear: 37 - 50
(PSI) Light Normal Load

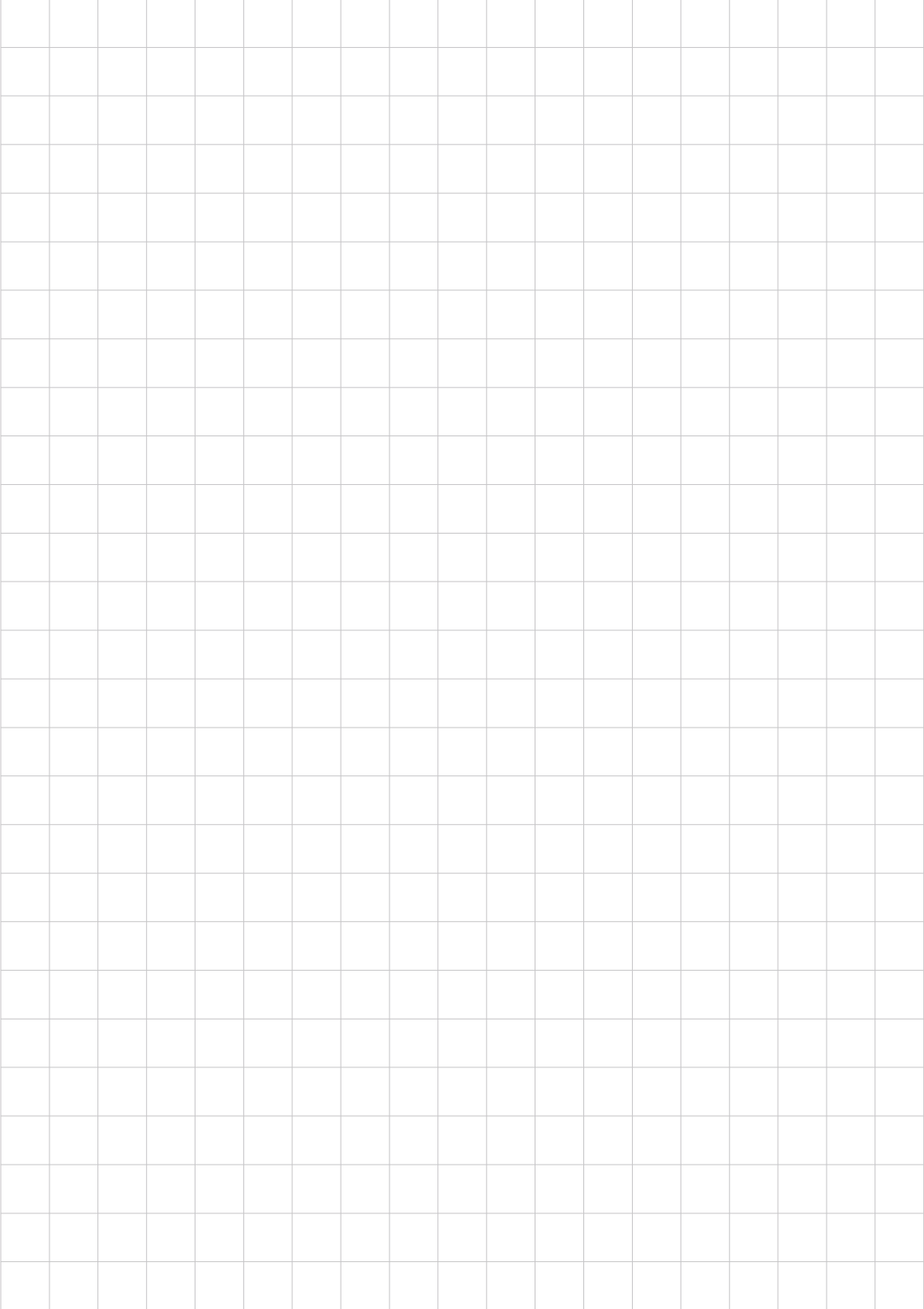
RUNNING OUT OF FUEL

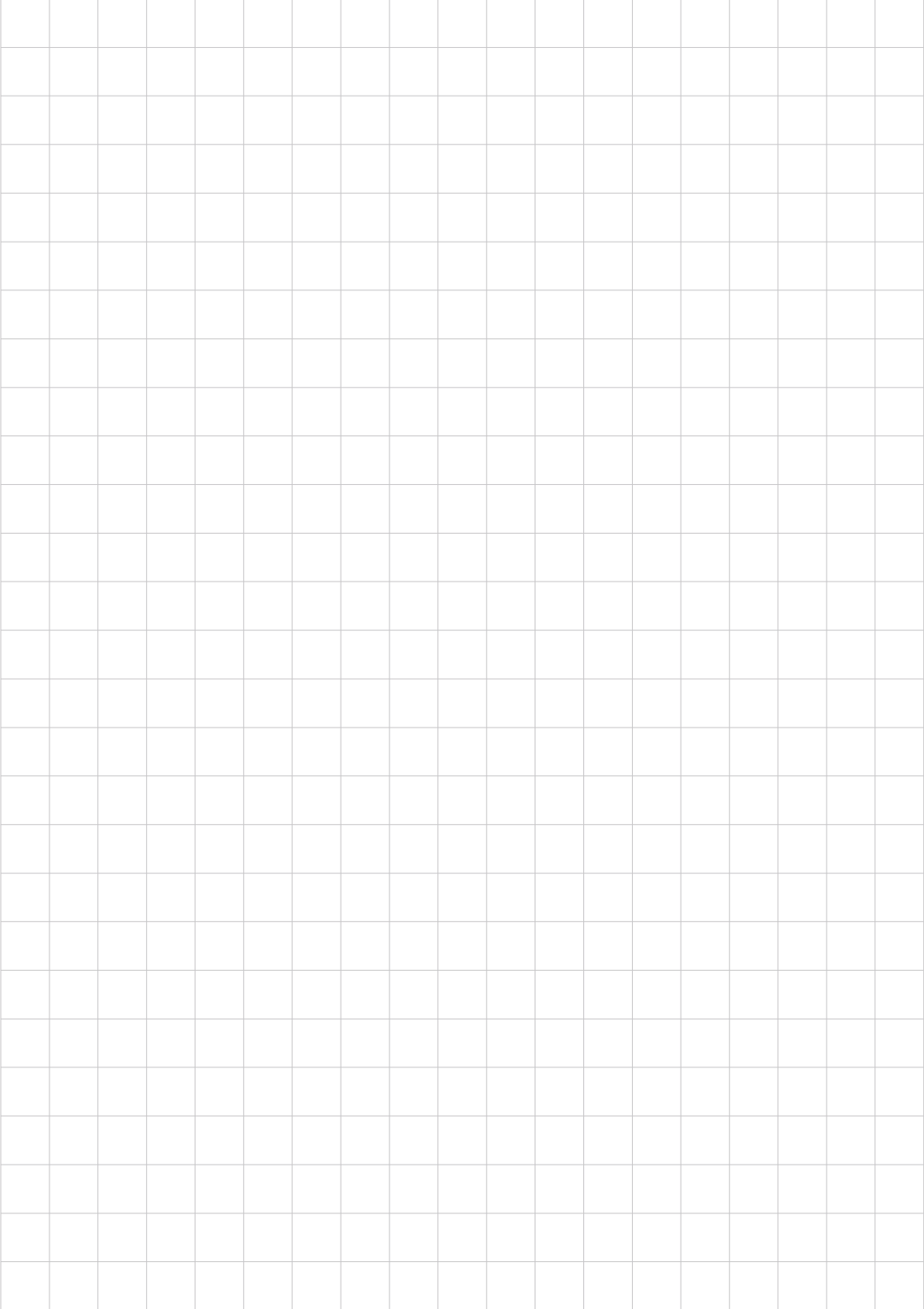
NOTICE

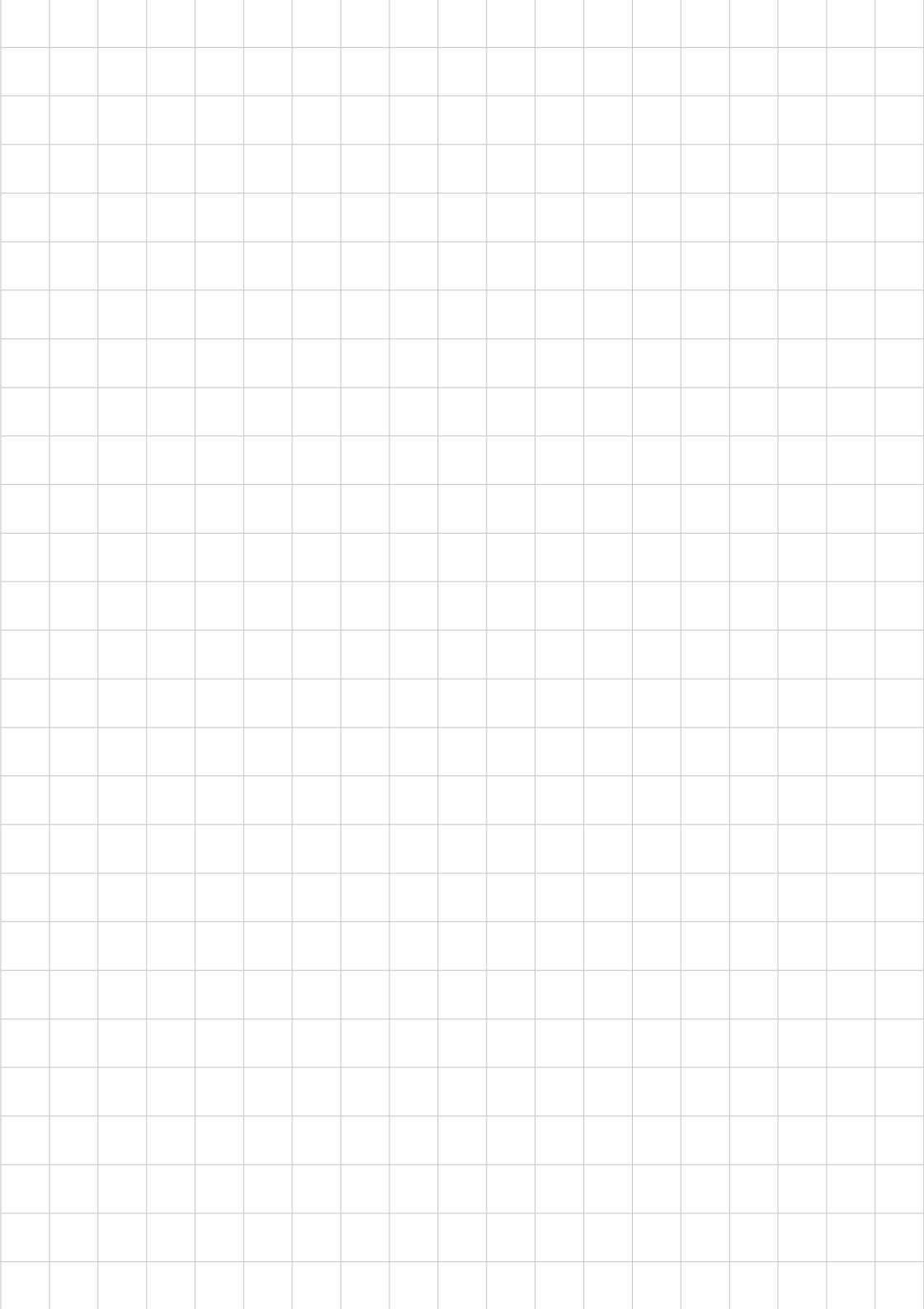
Avoid running out of fuel. Doing so can cause damage to the vehicle's engine, fuel and emission control systems.

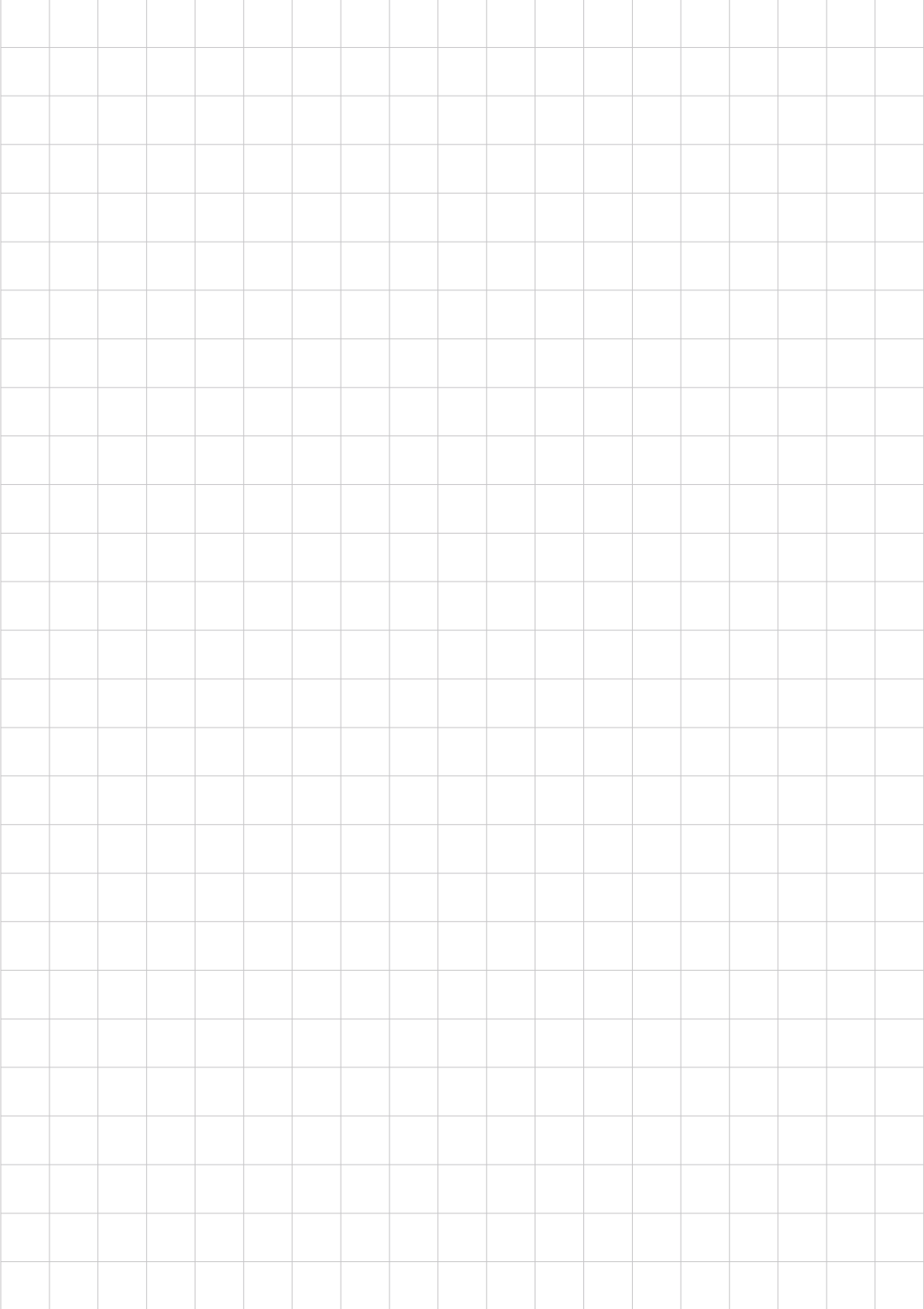
If the vehicle does run out of fuel, a minimum of 1.1 U.S. gallons (4 L) is required to restart the engine. The vehicle should be left with the ignition on for 5 minutes after refueling, before attempting to restart the engine. The vehicle needs to be driven 1 - 3 miles (1.6 - 5 km), in order to reset the engine management and monitoring systems.

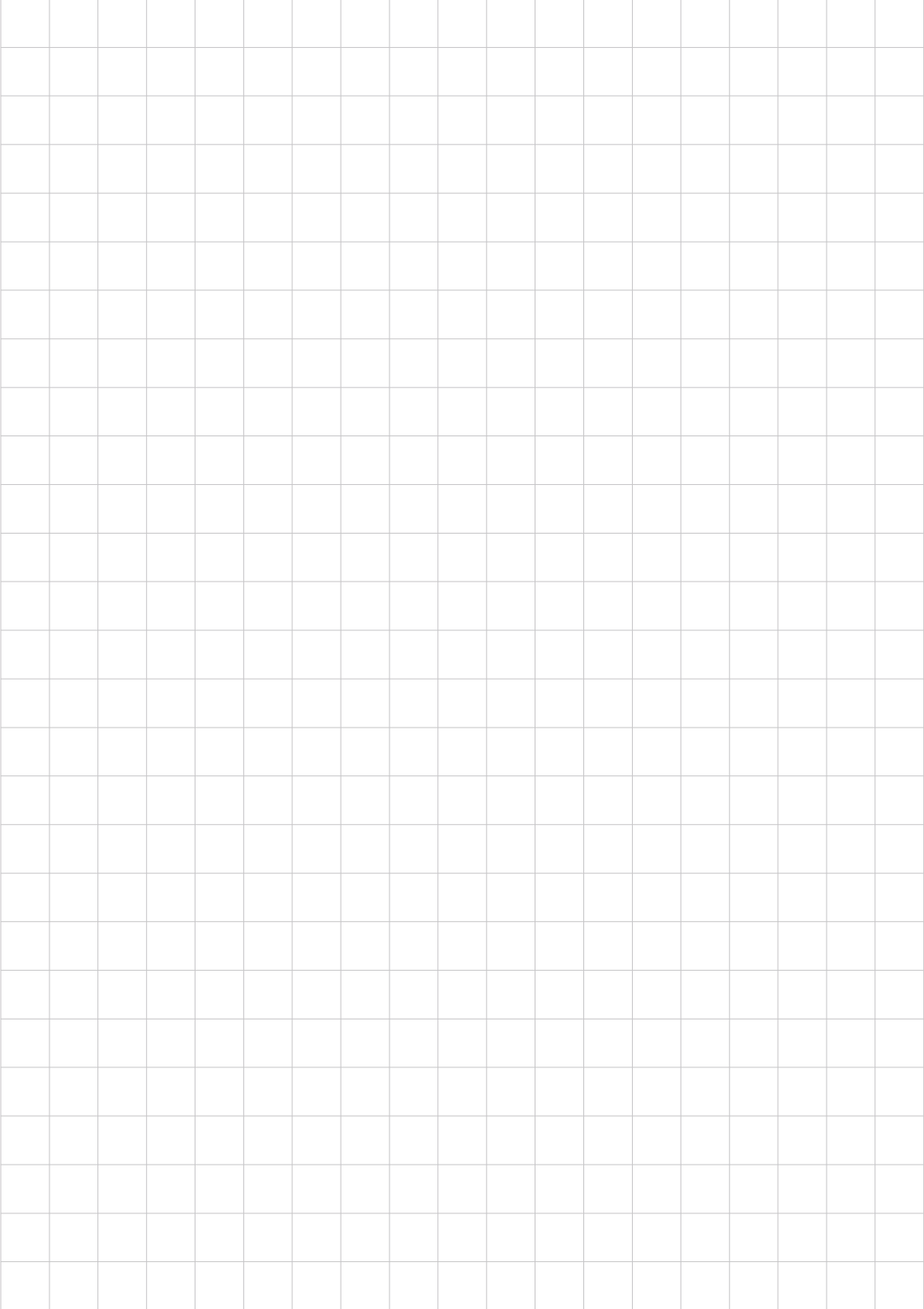
Note: *If the vehicle does run out of fuel, seeking qualified assistance is advisable.*

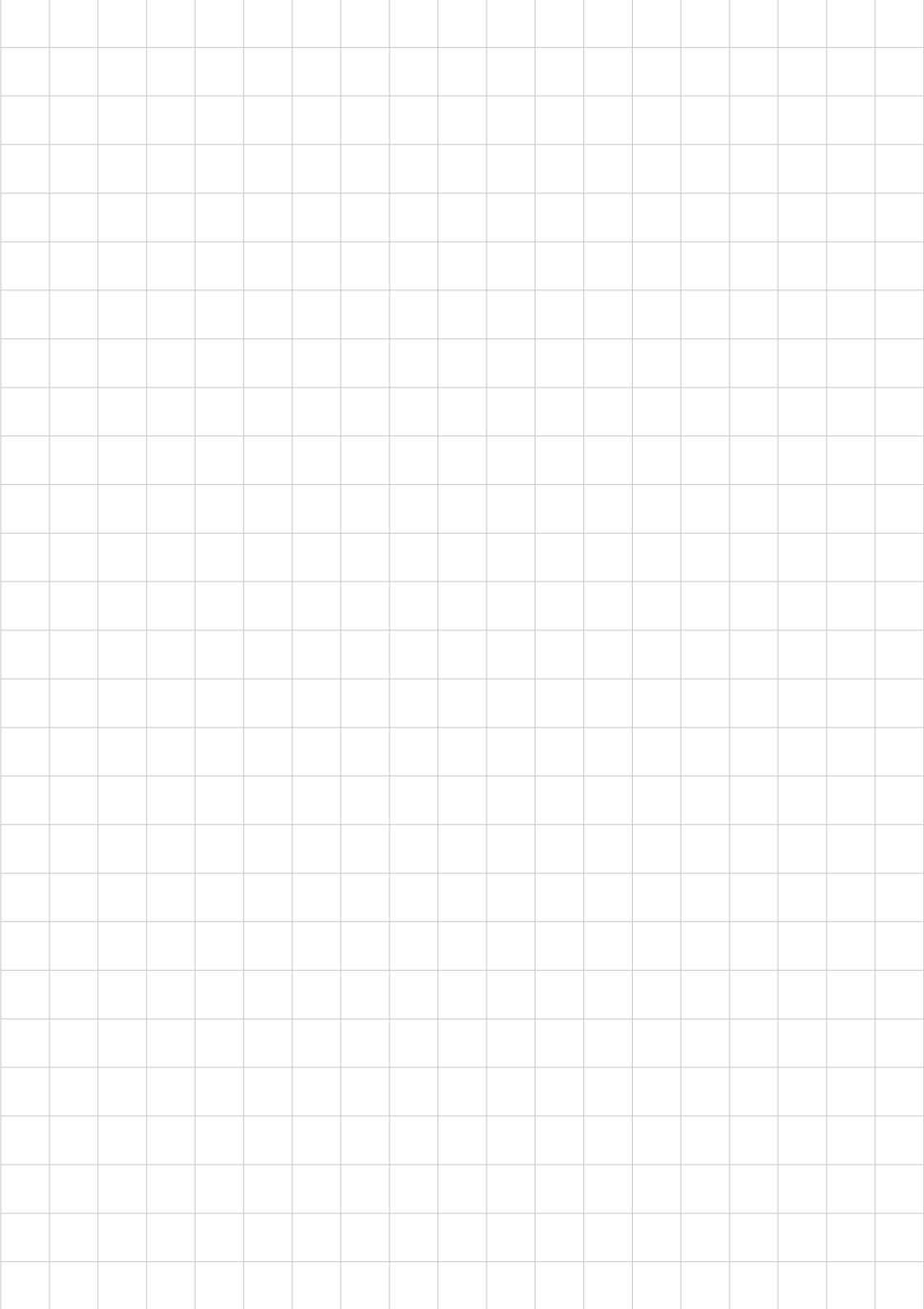


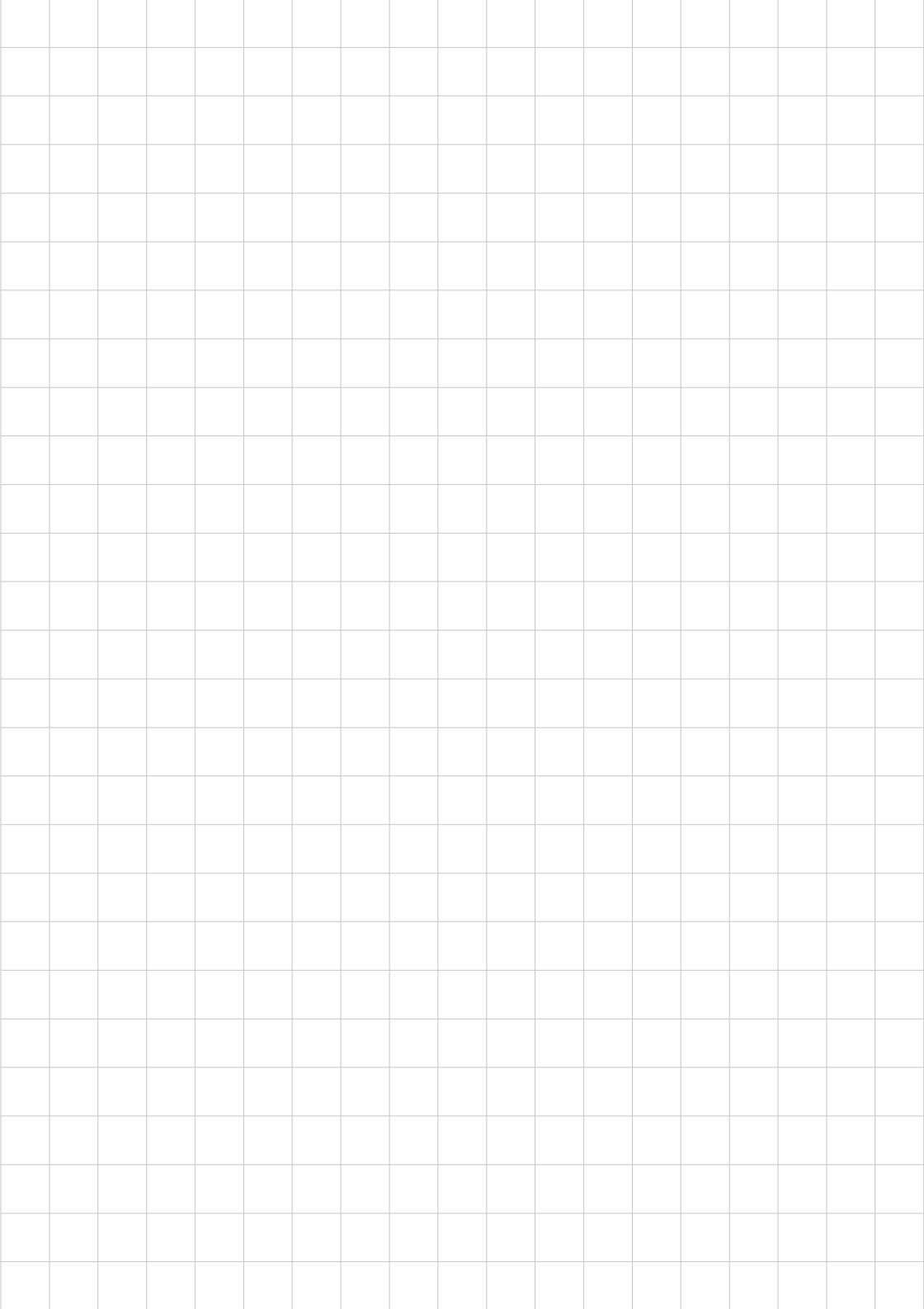


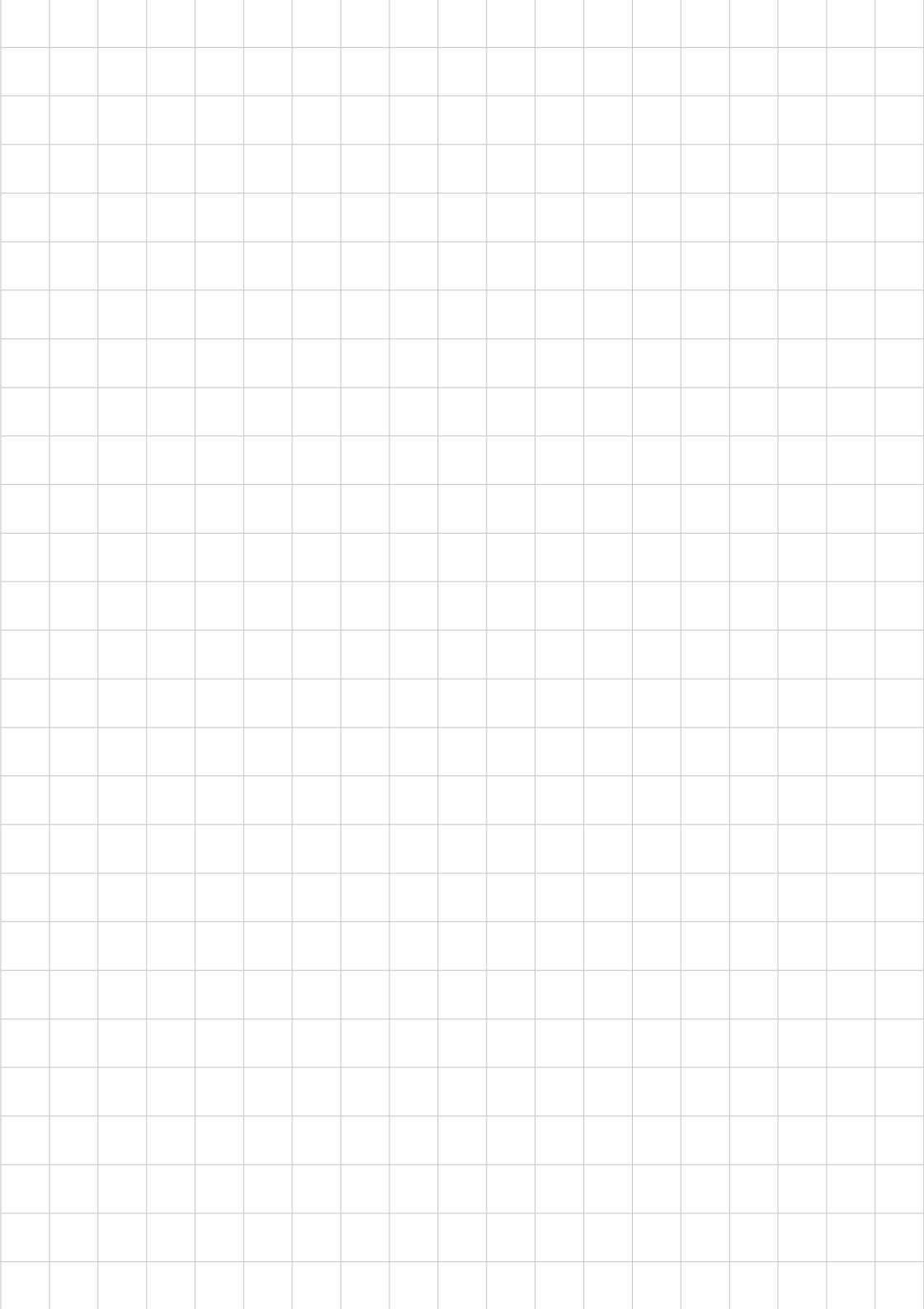


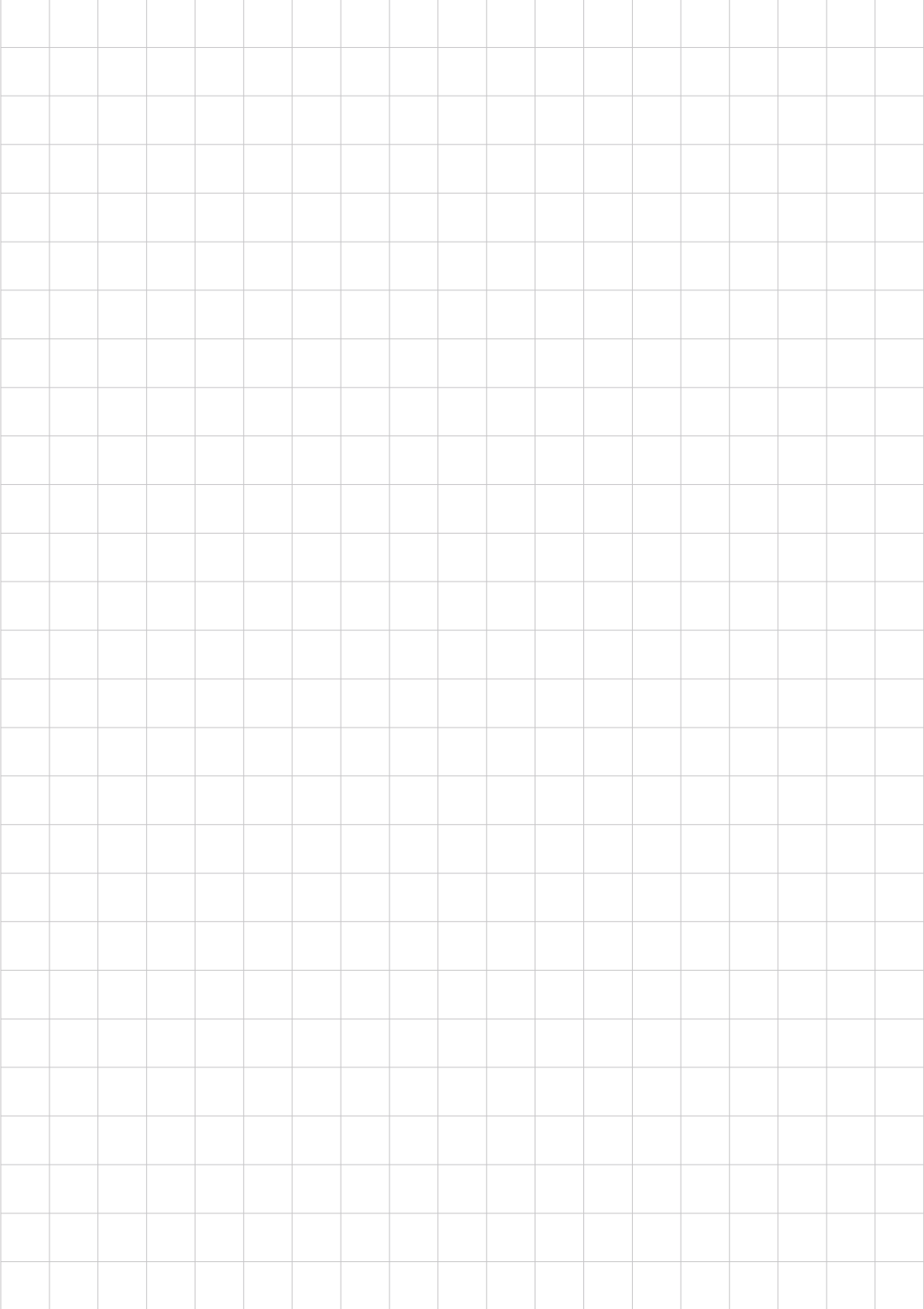


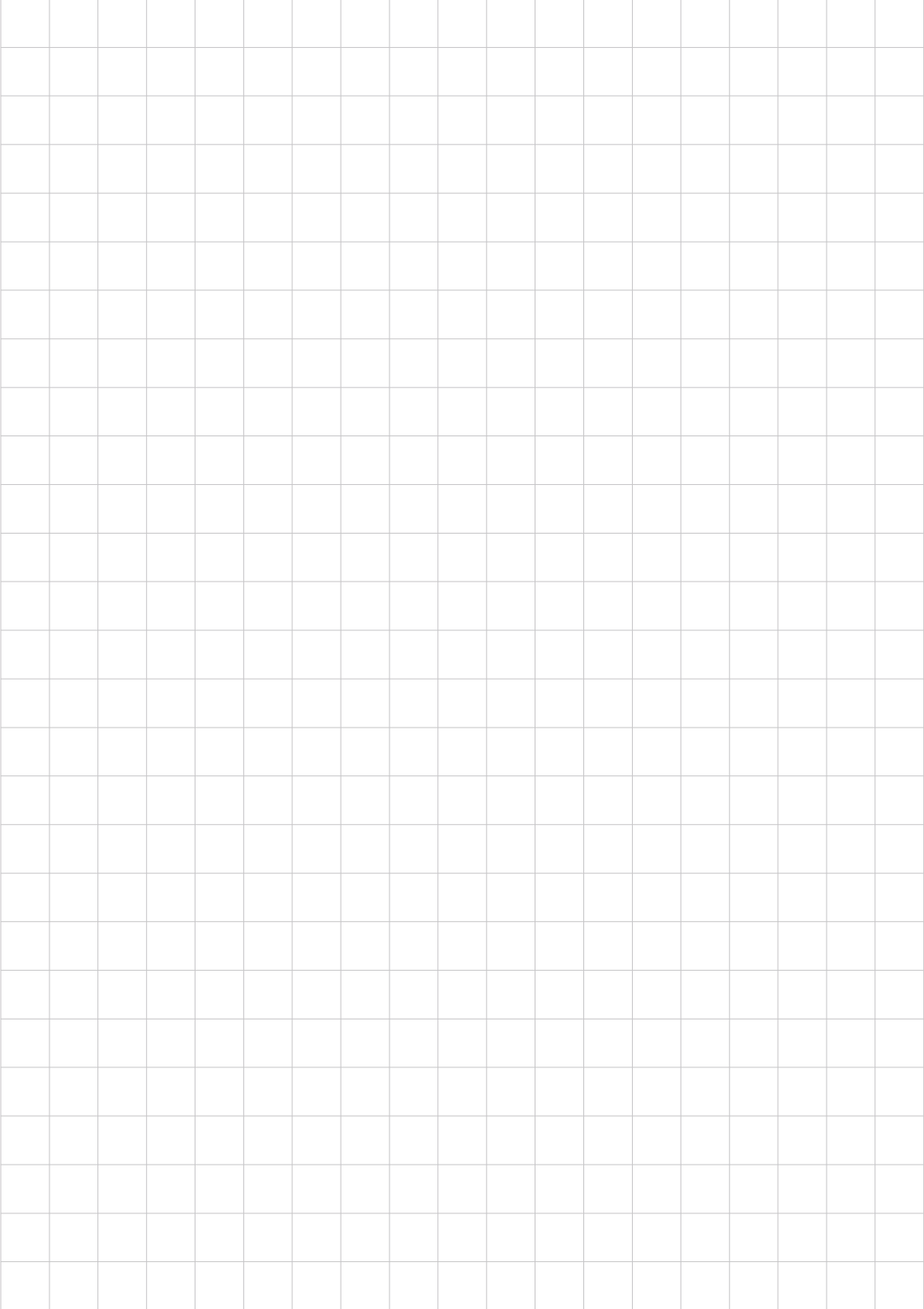


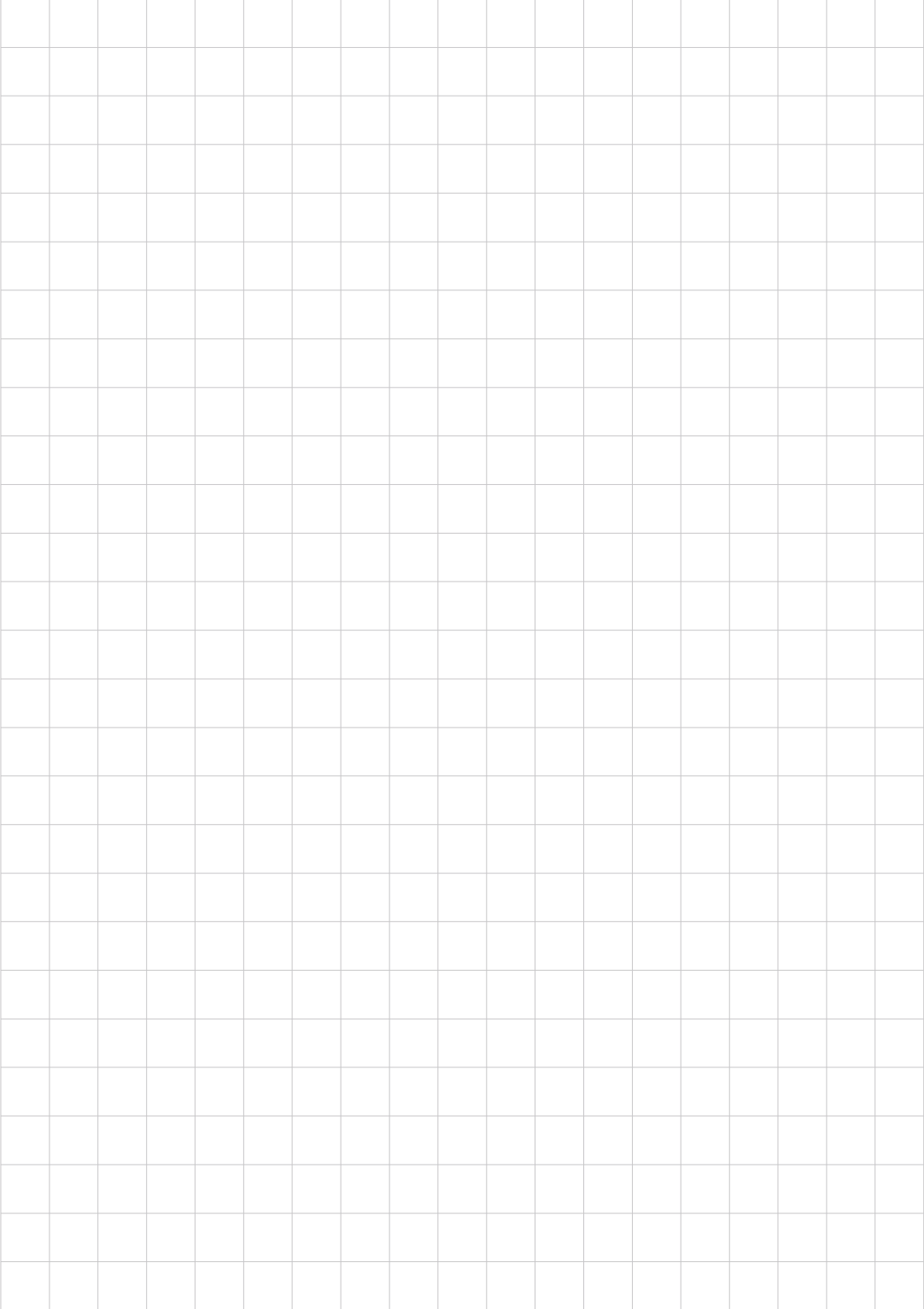


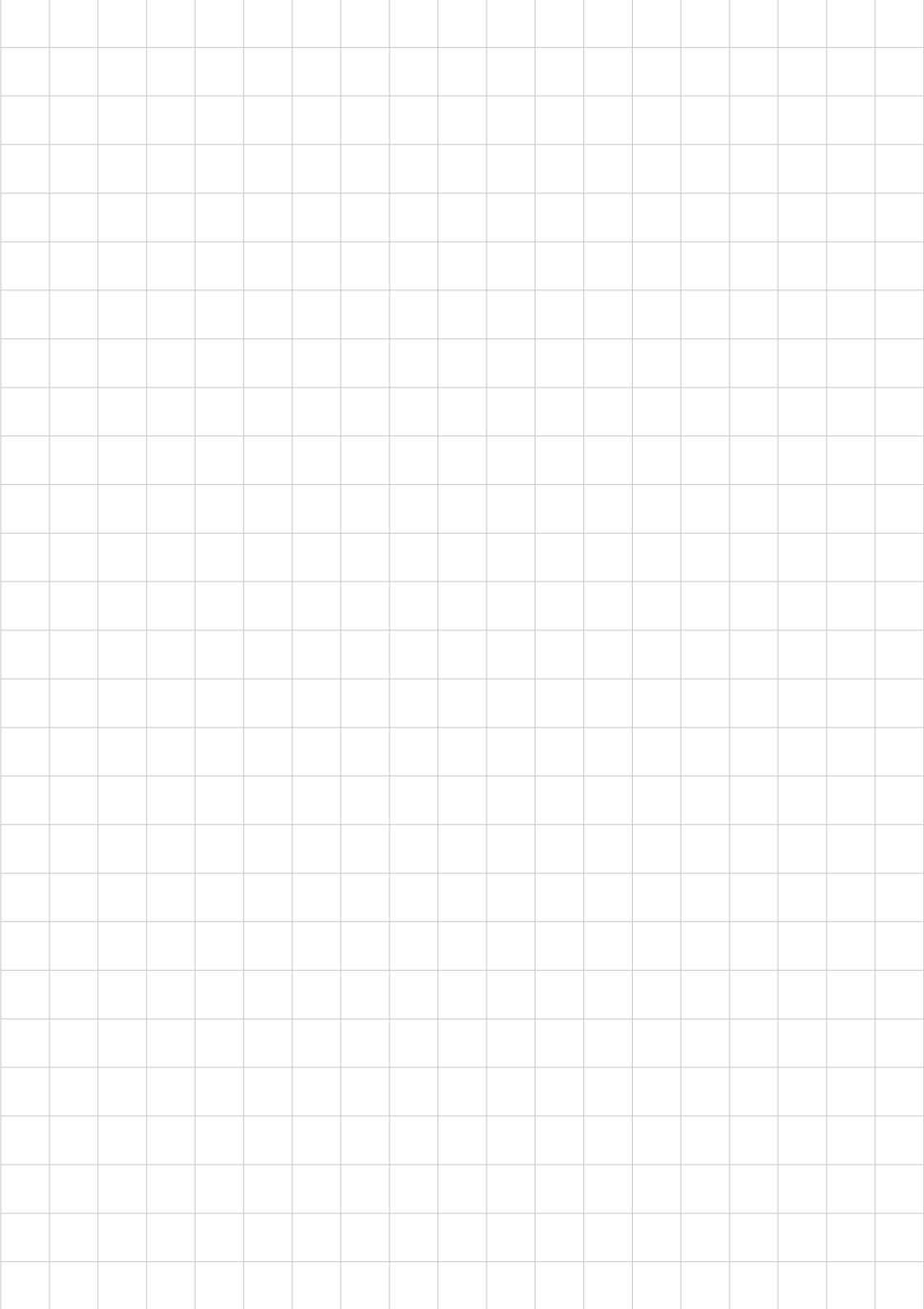


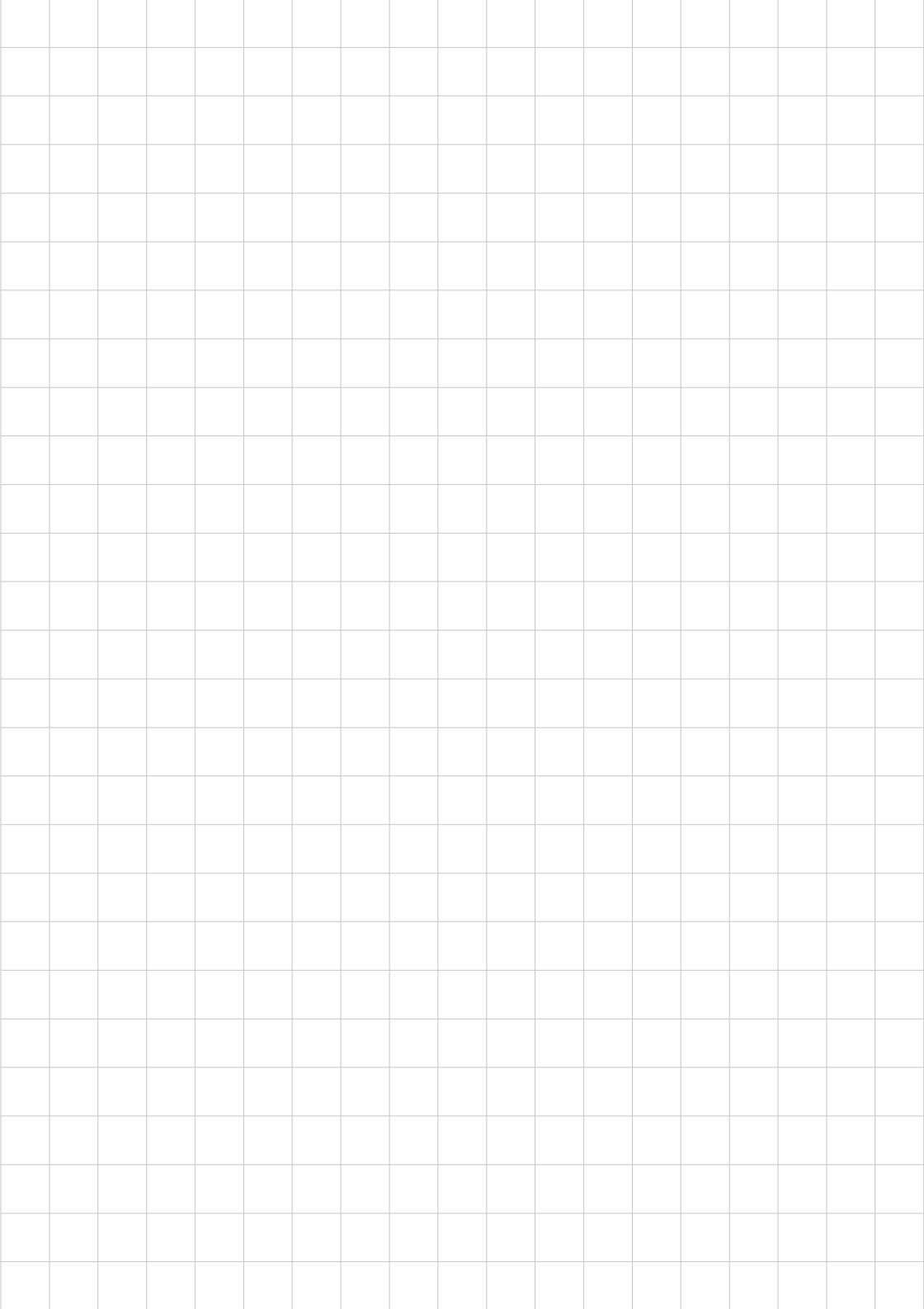


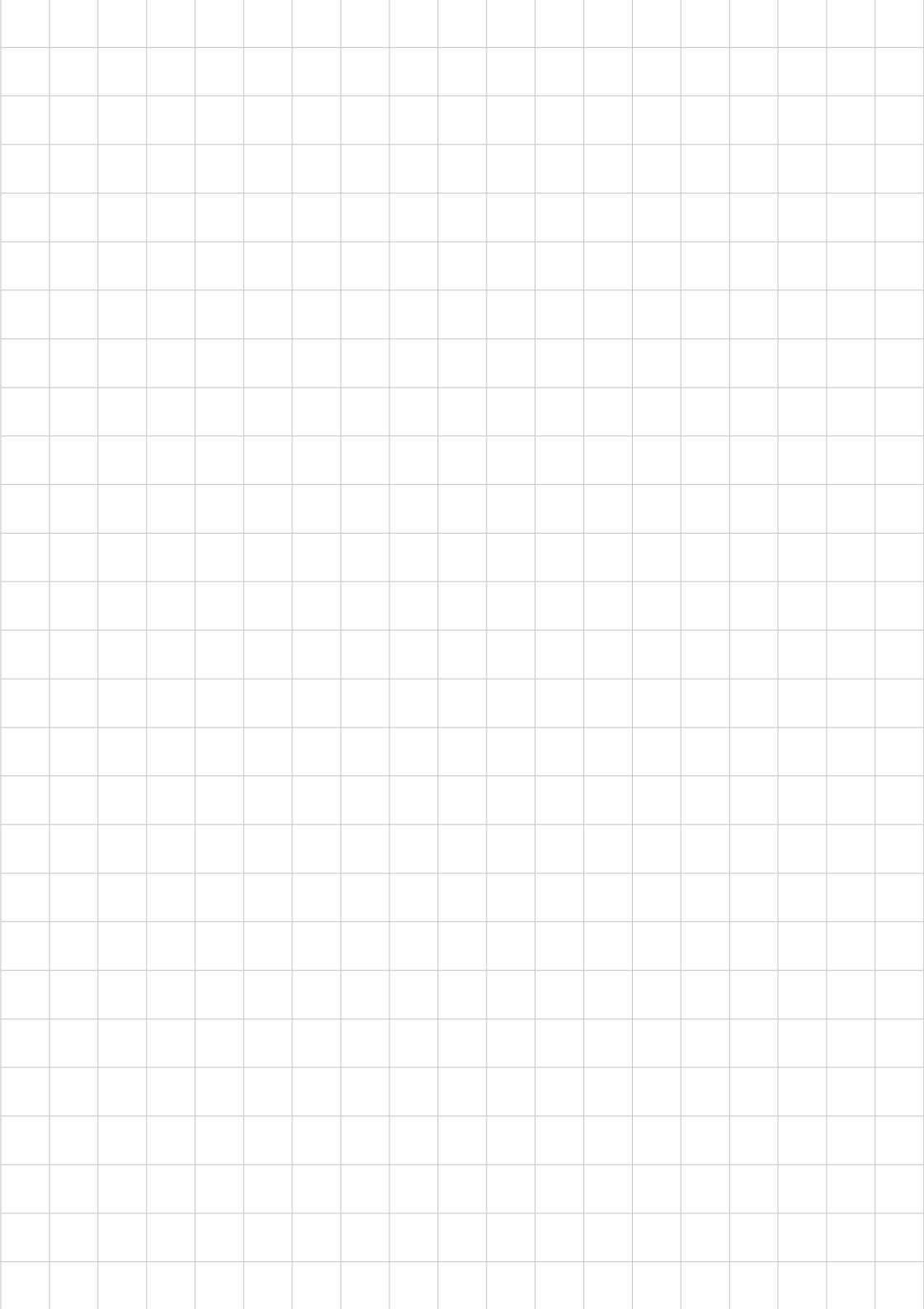


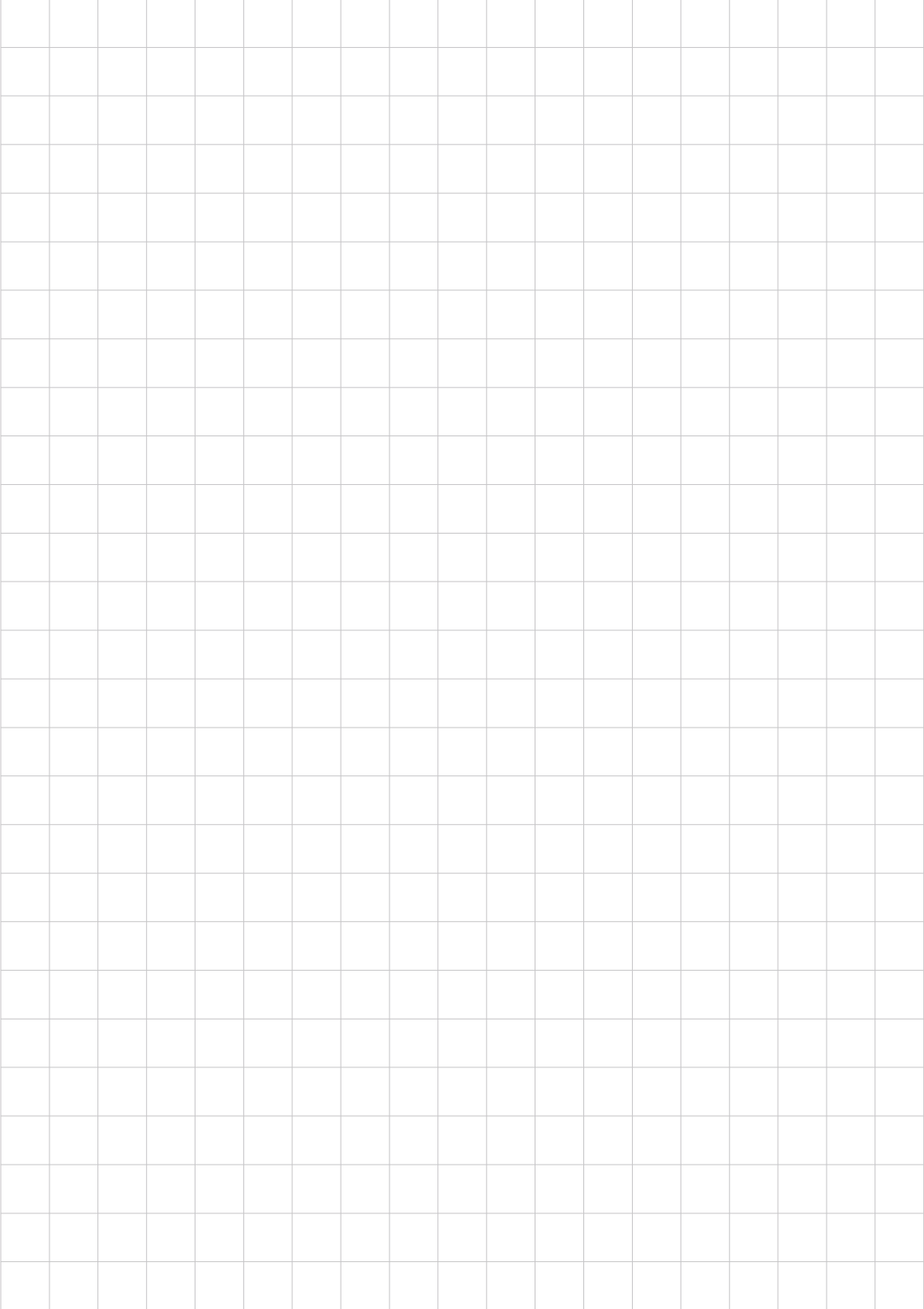


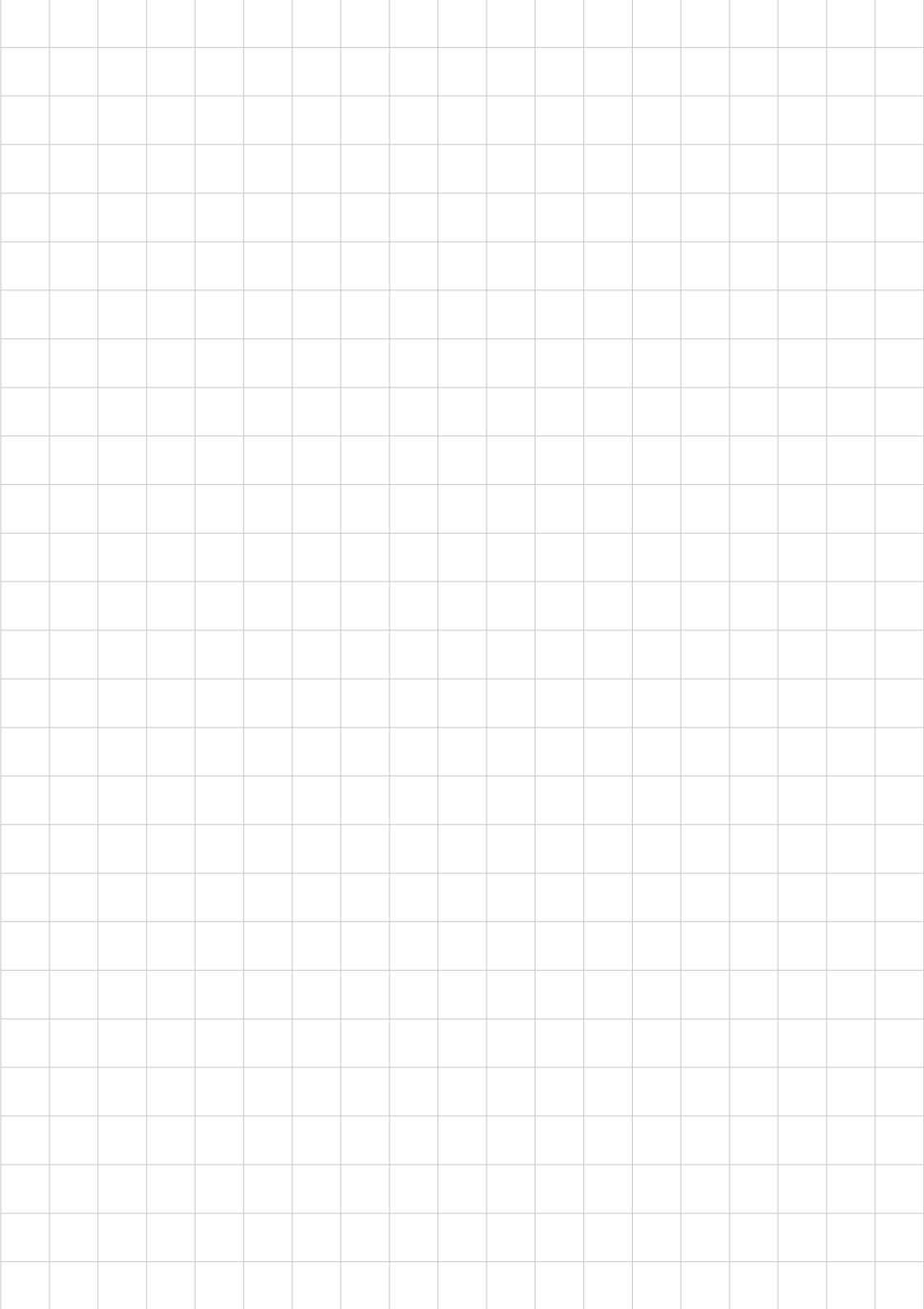


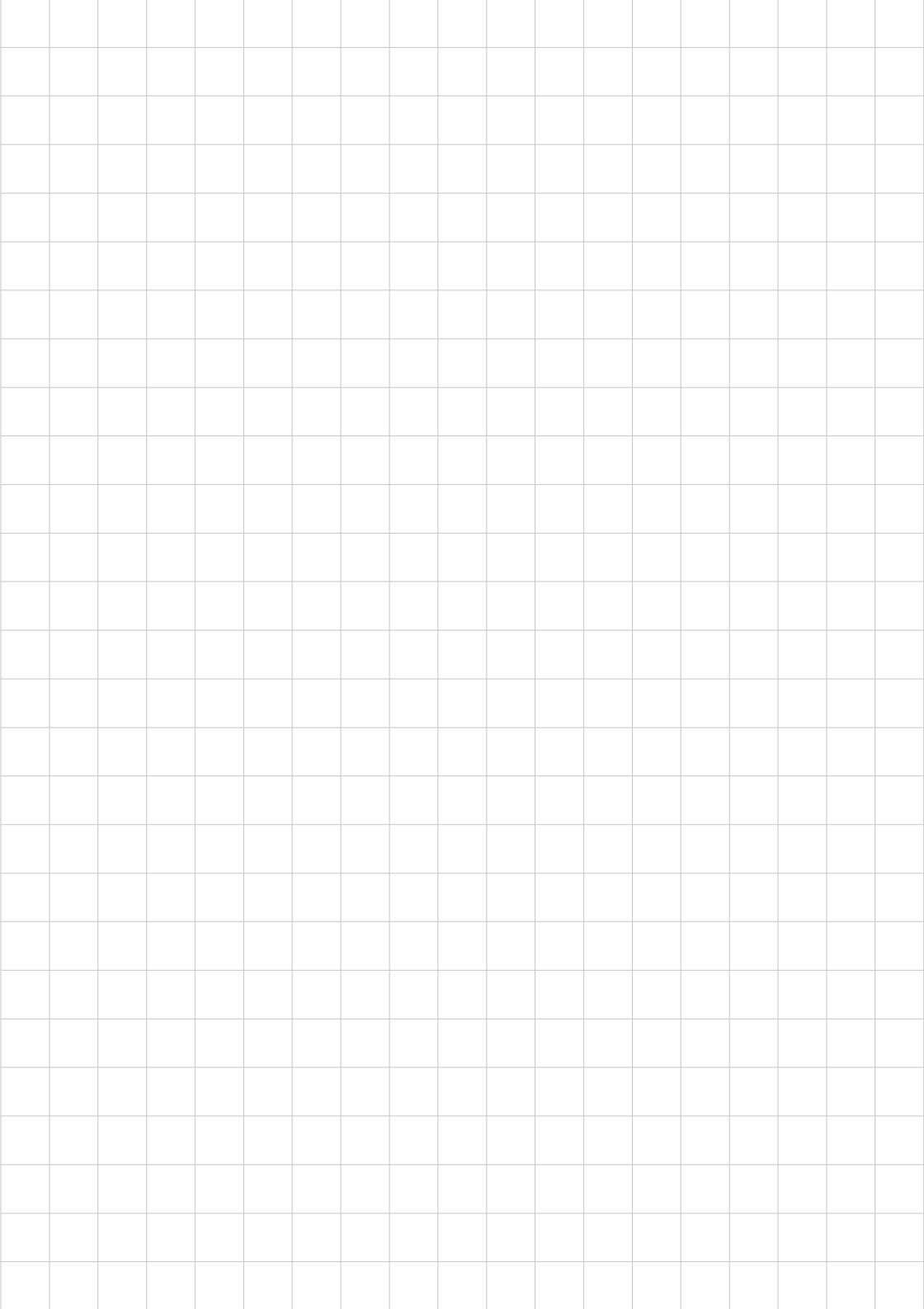


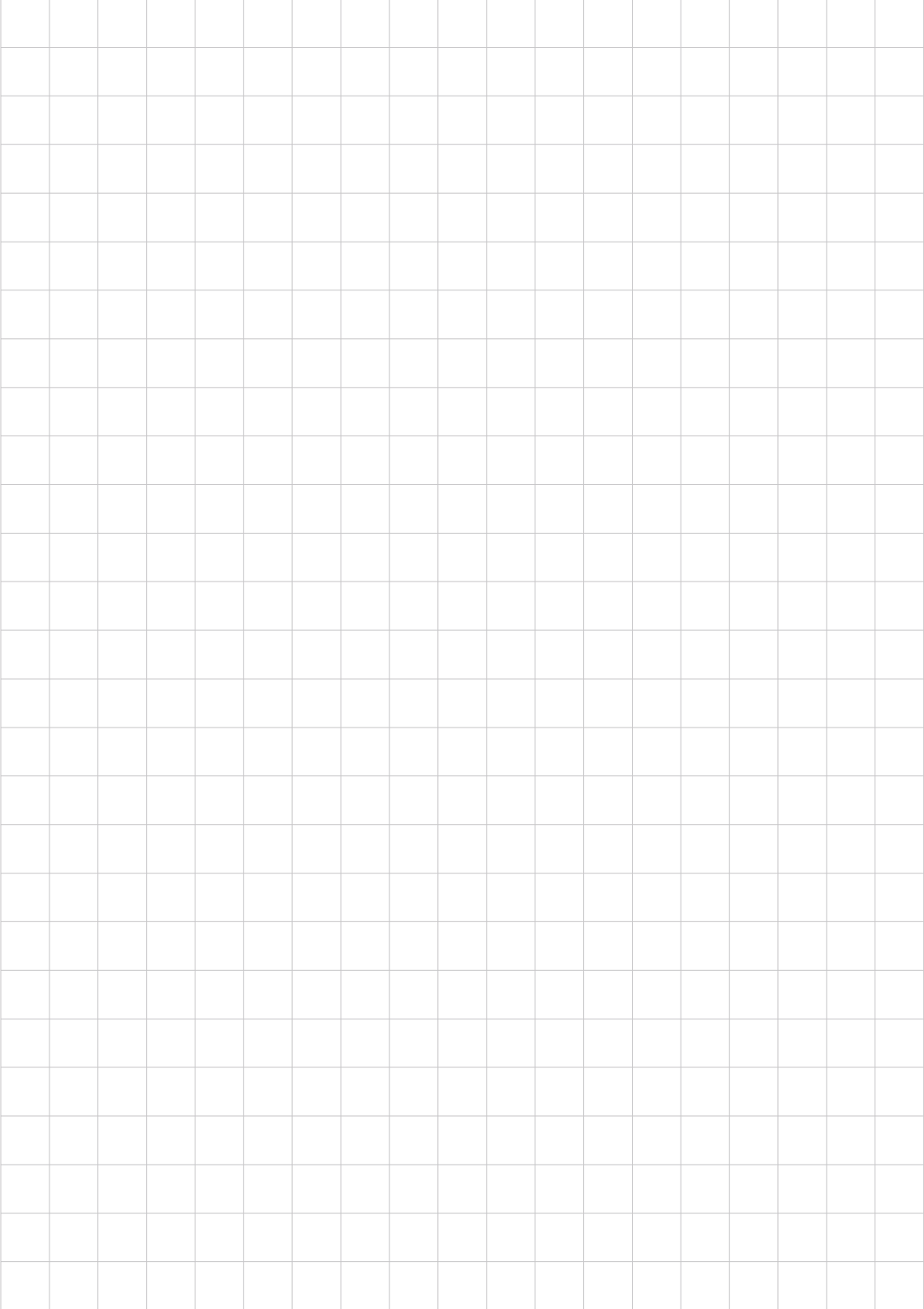


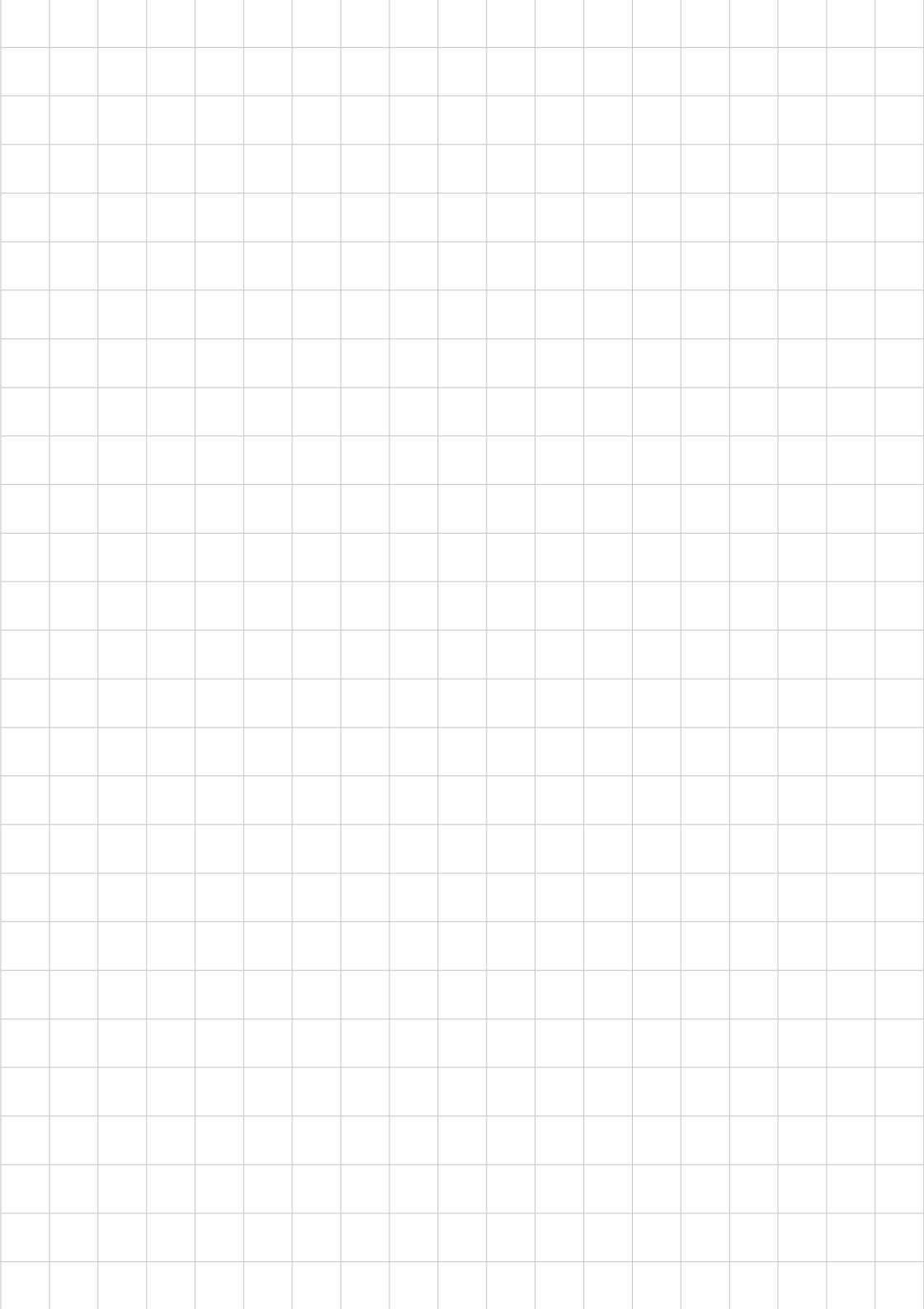


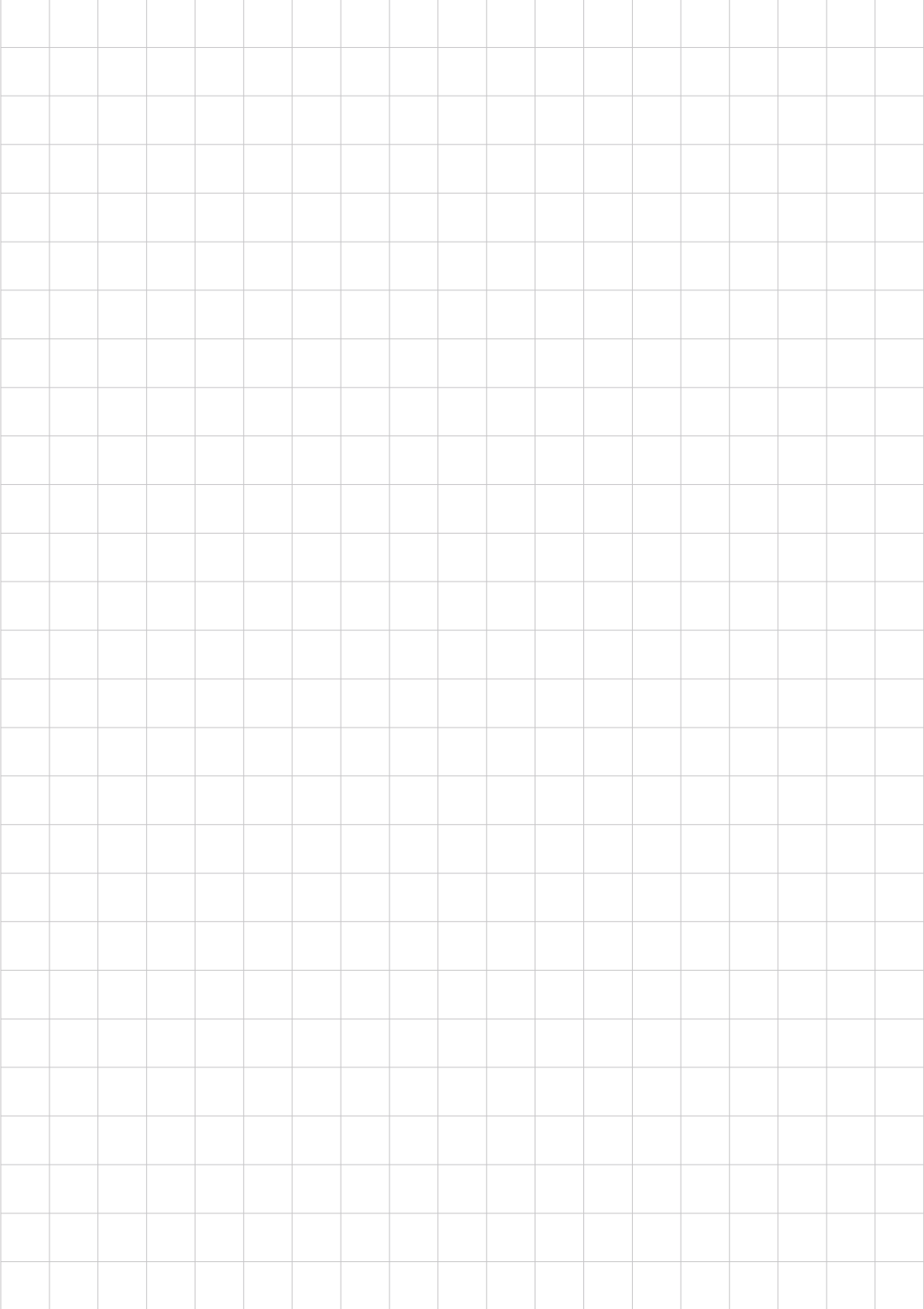


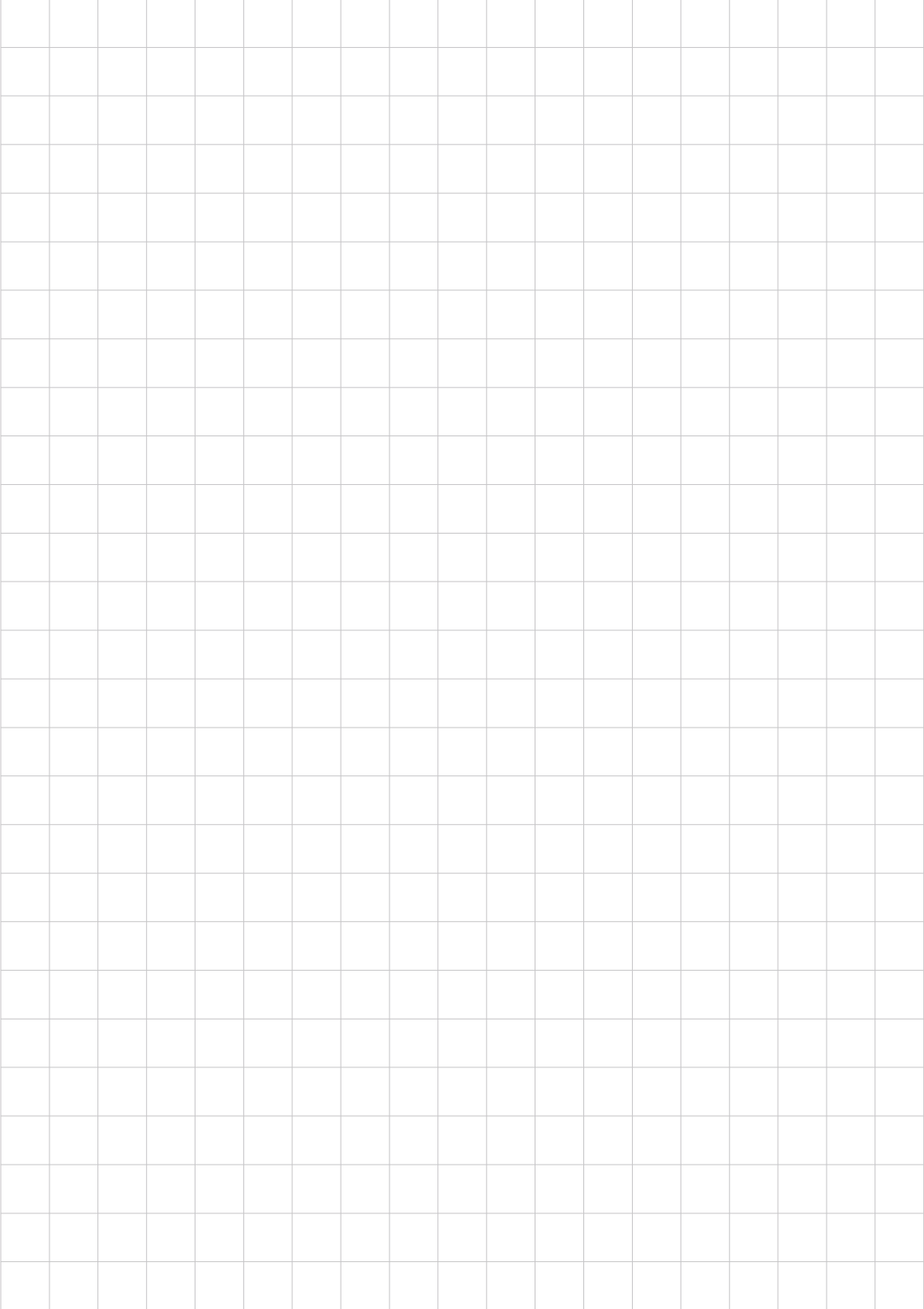


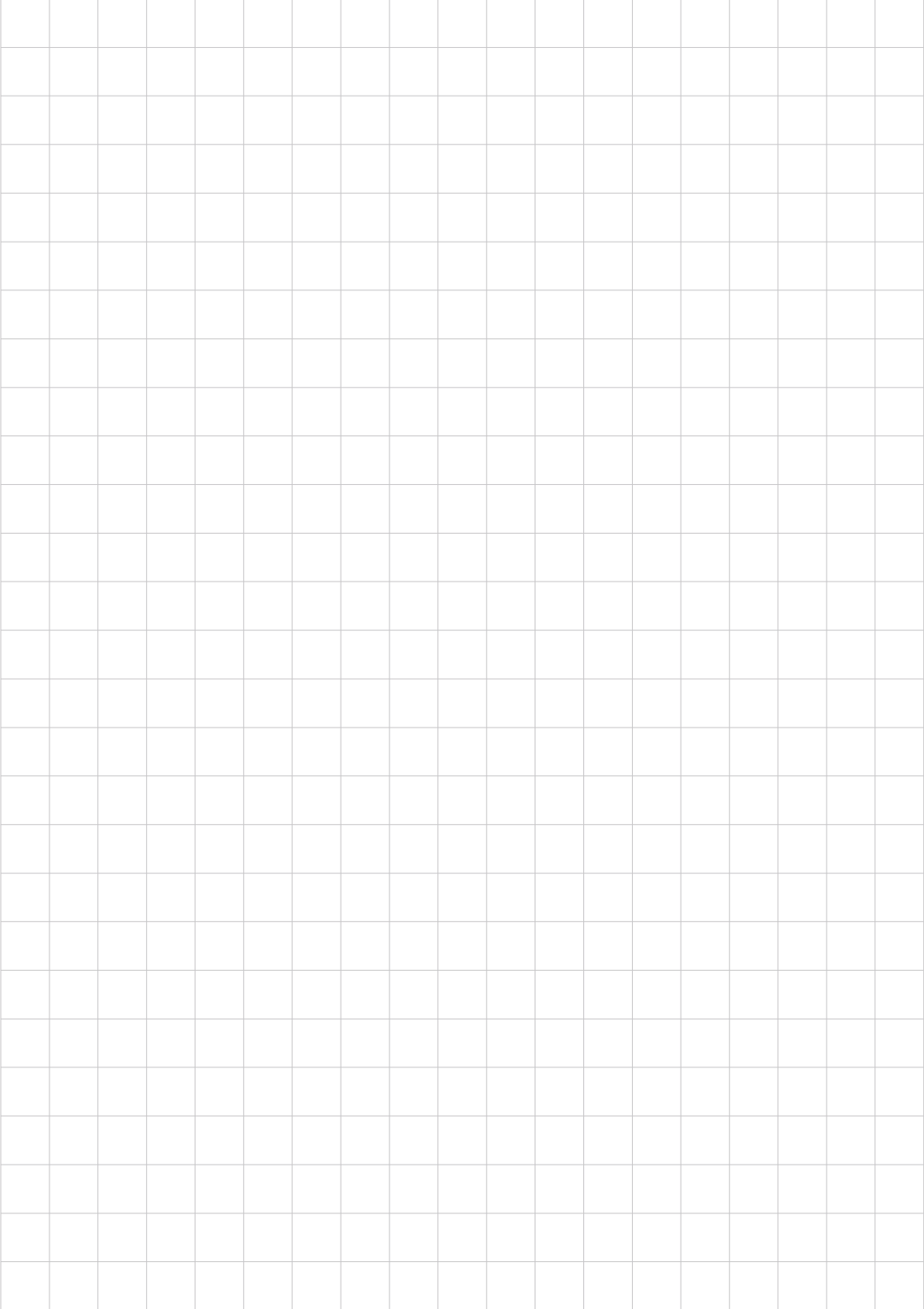


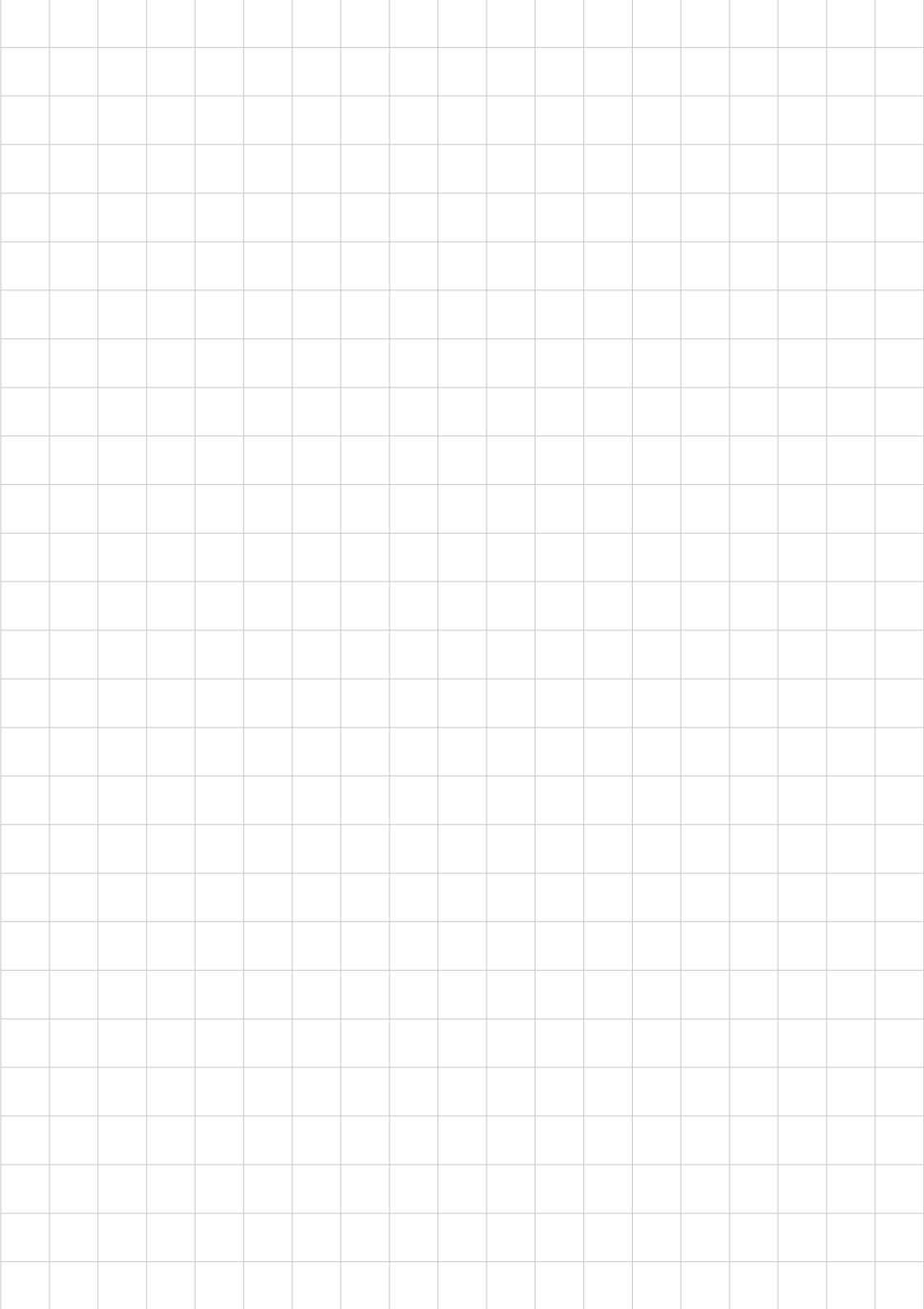


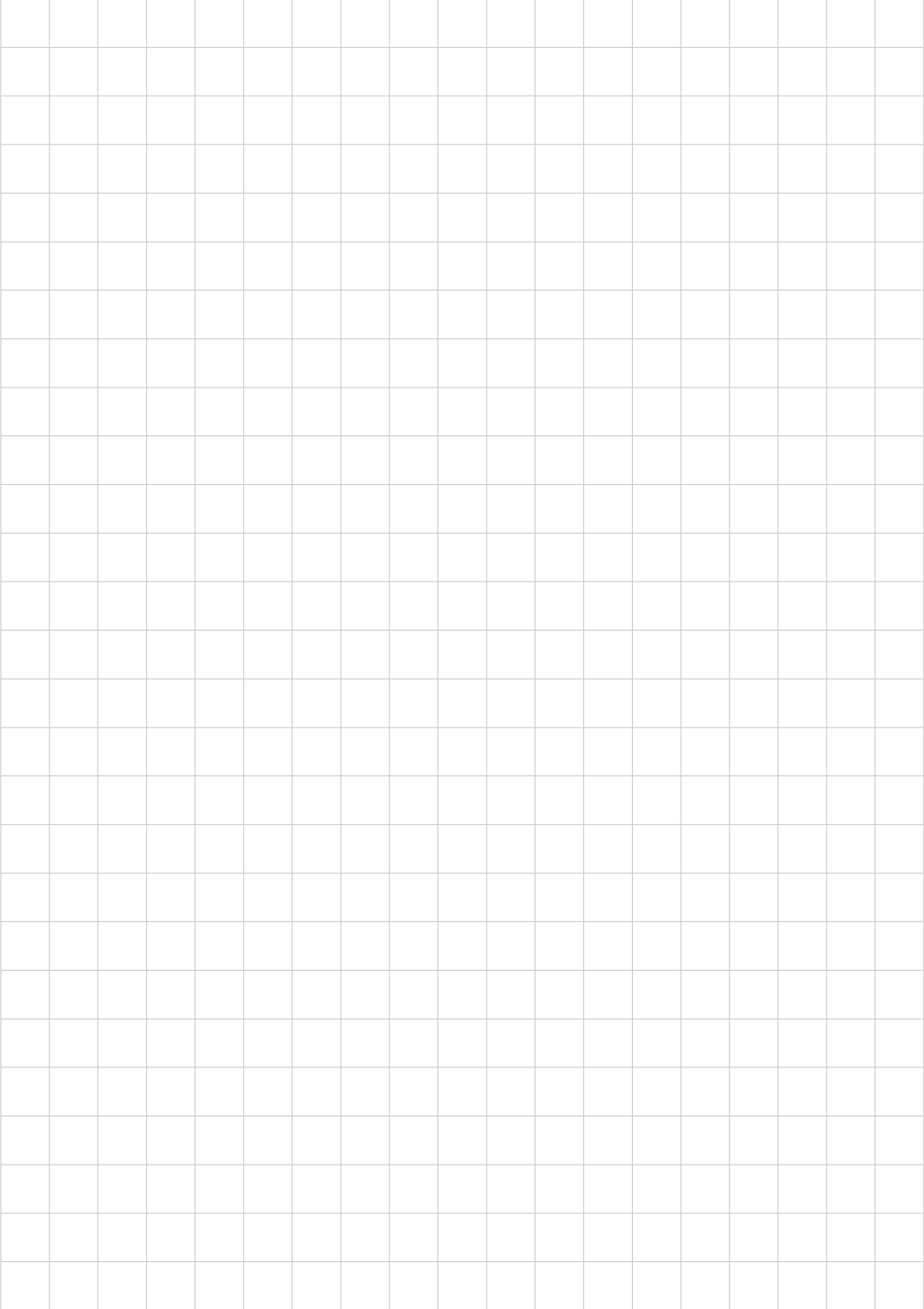


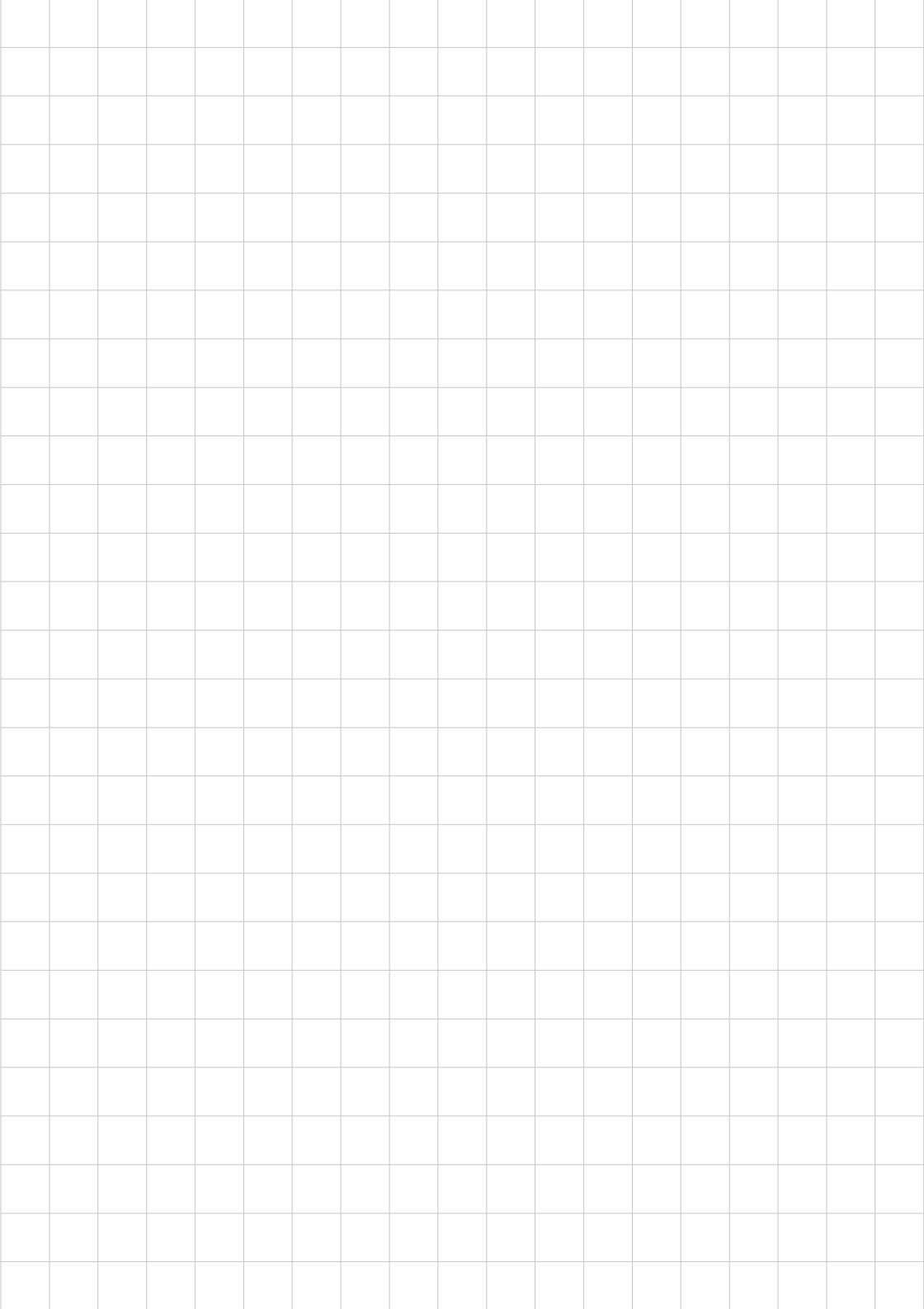


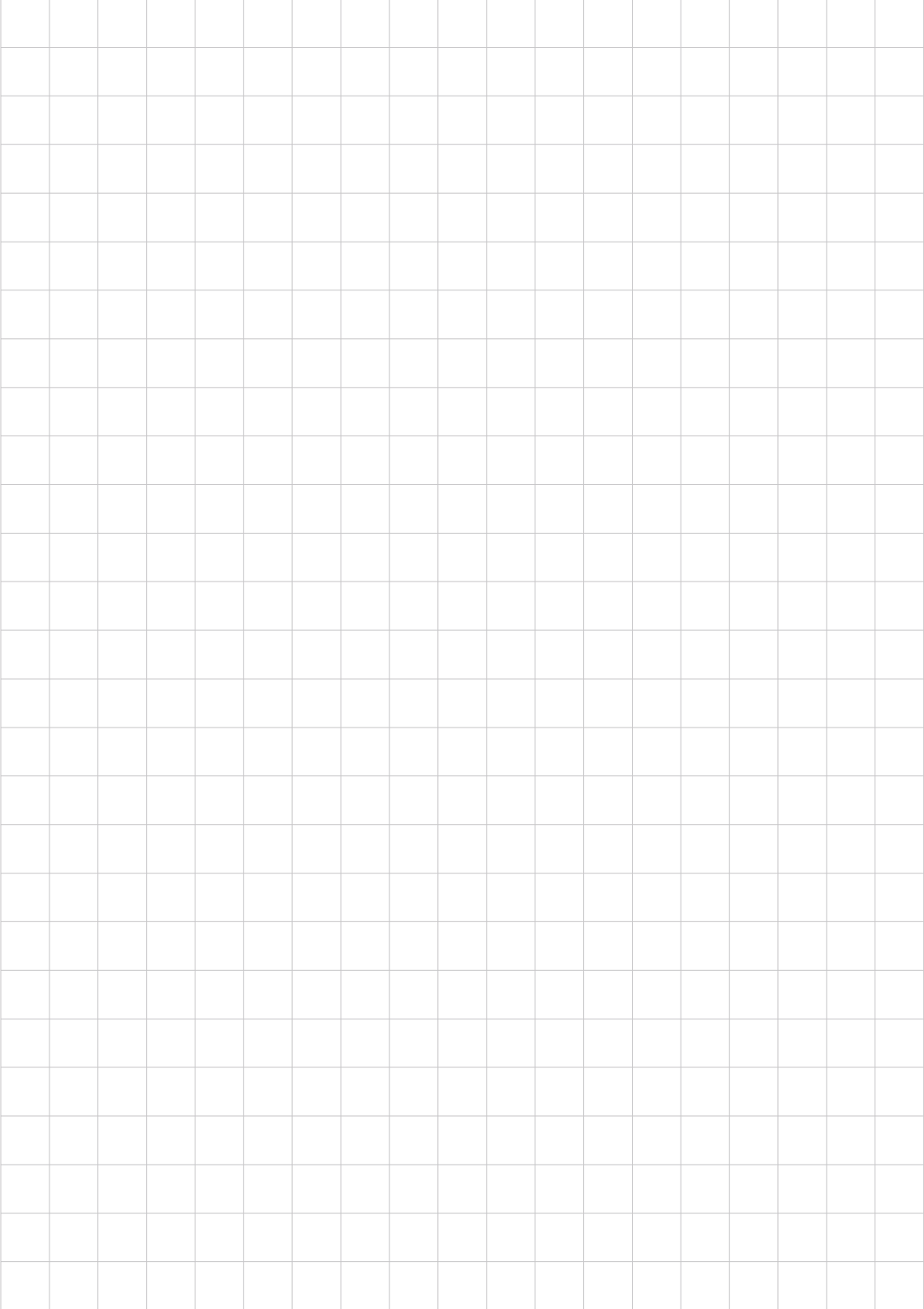


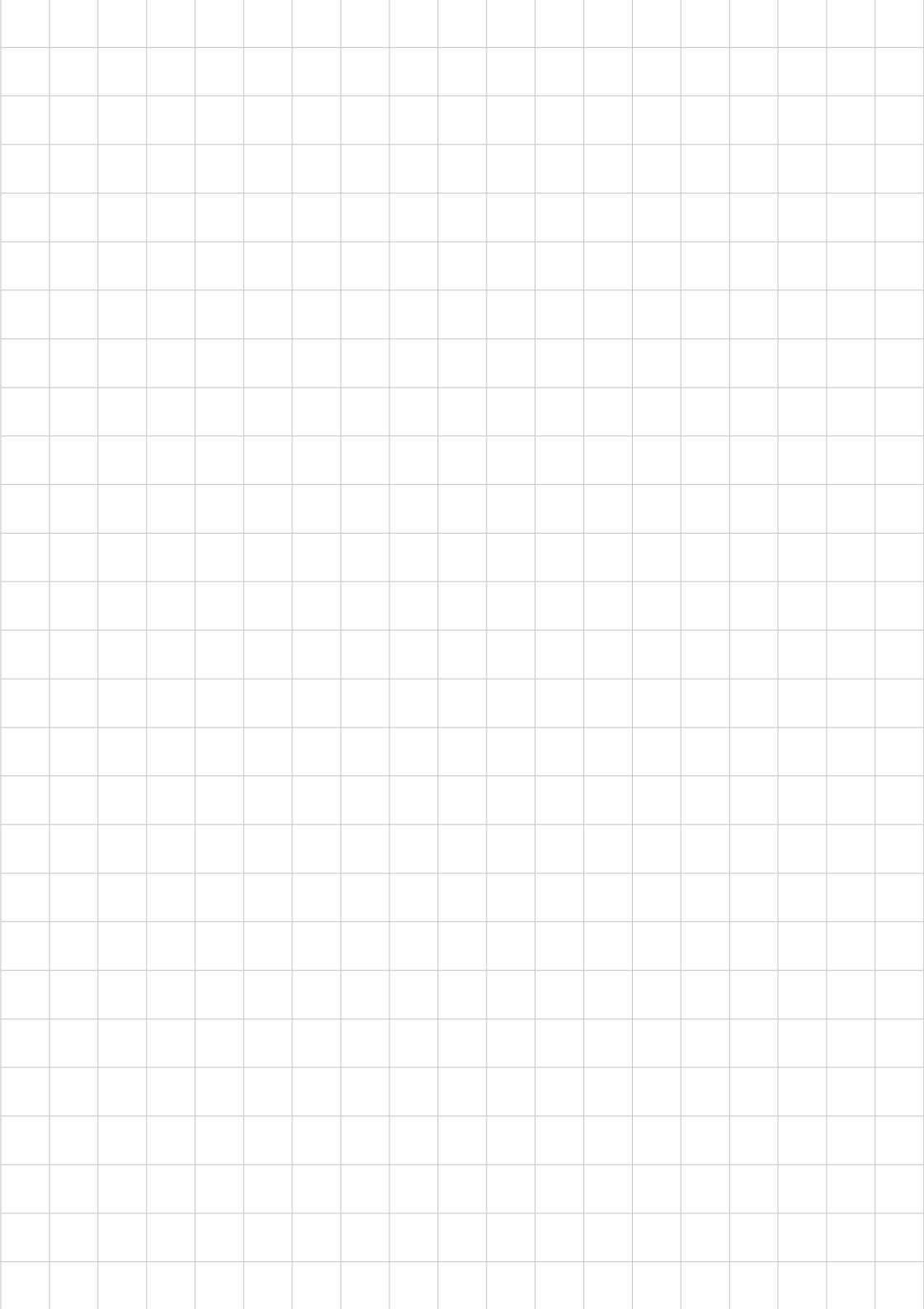


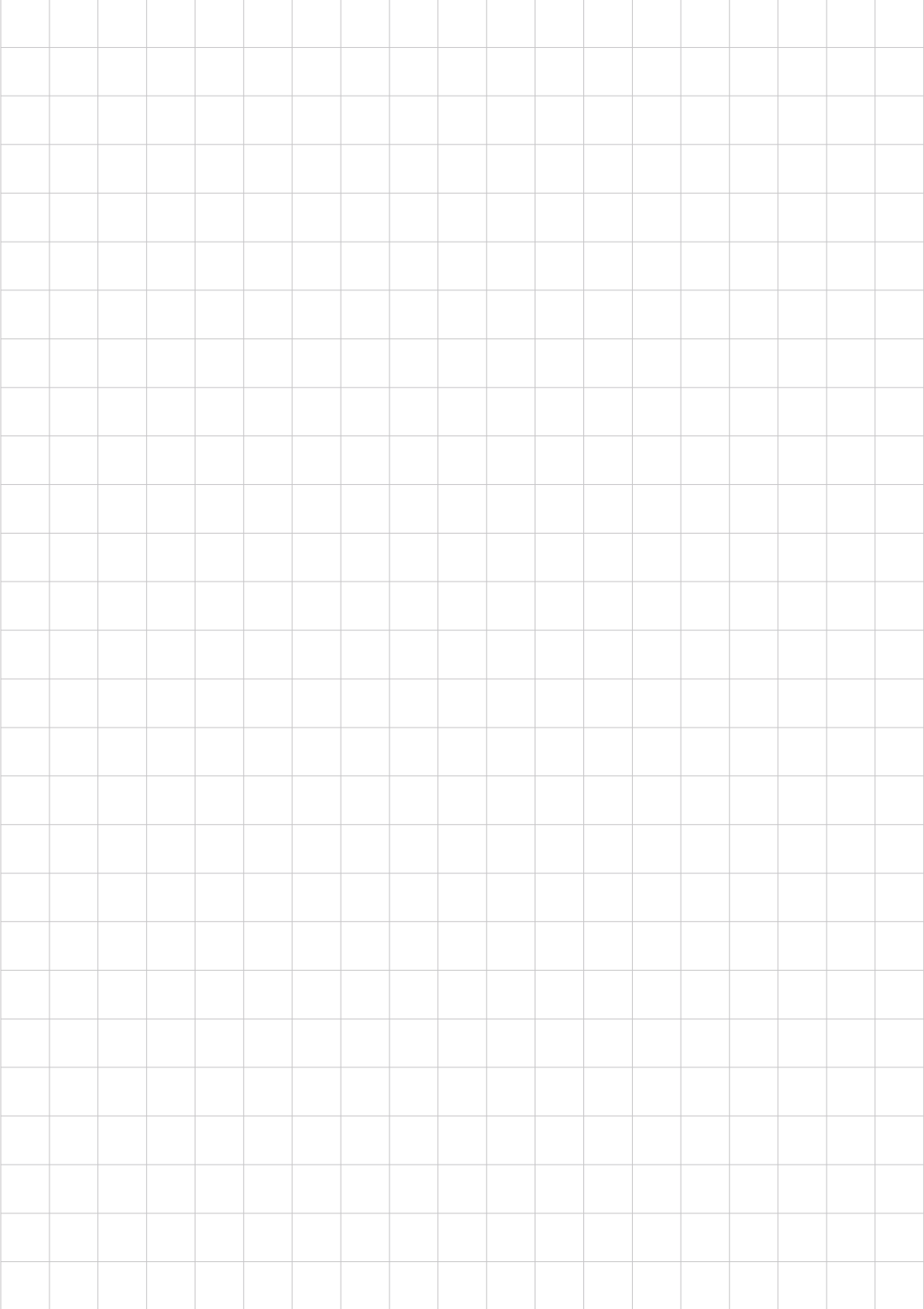


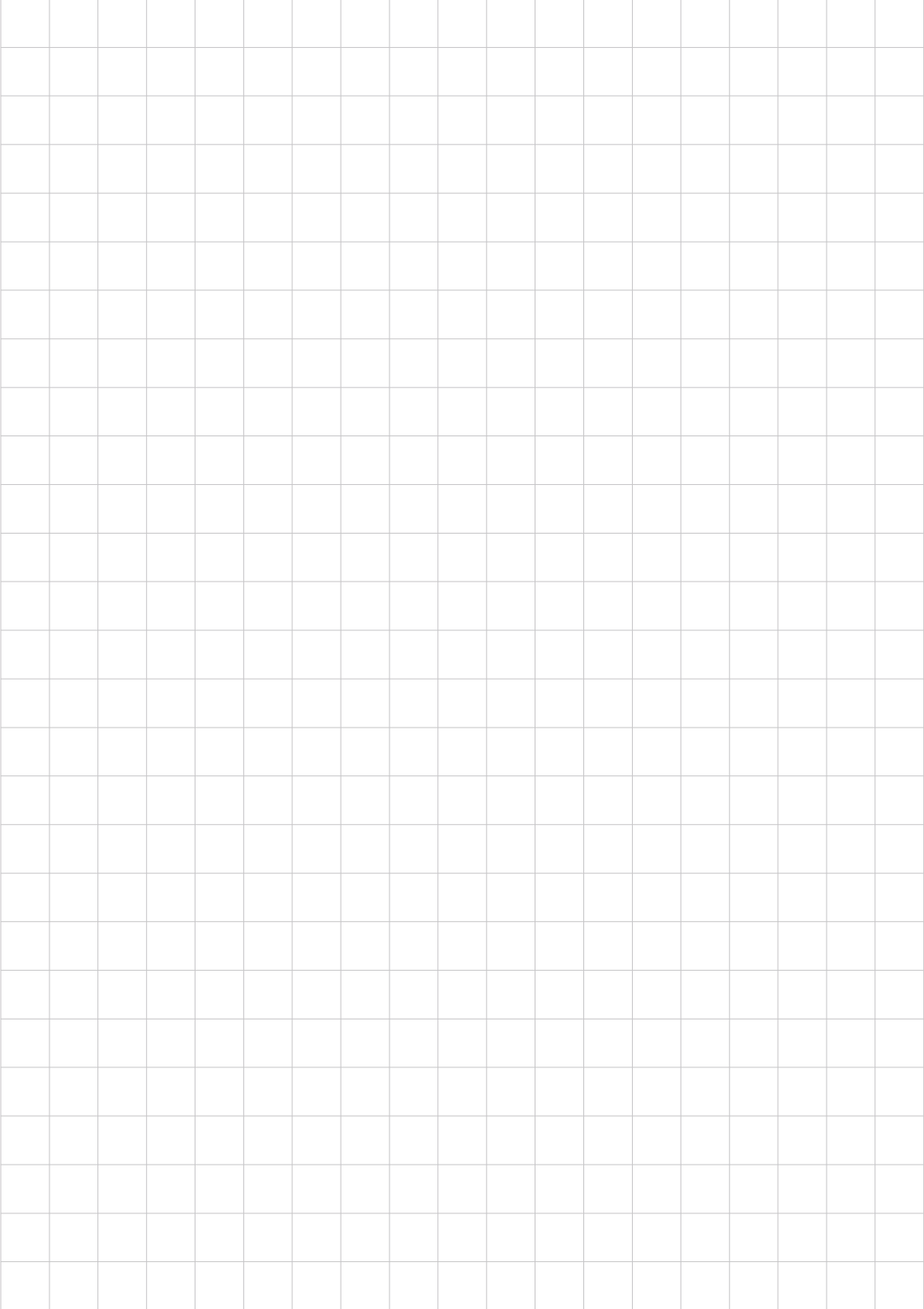


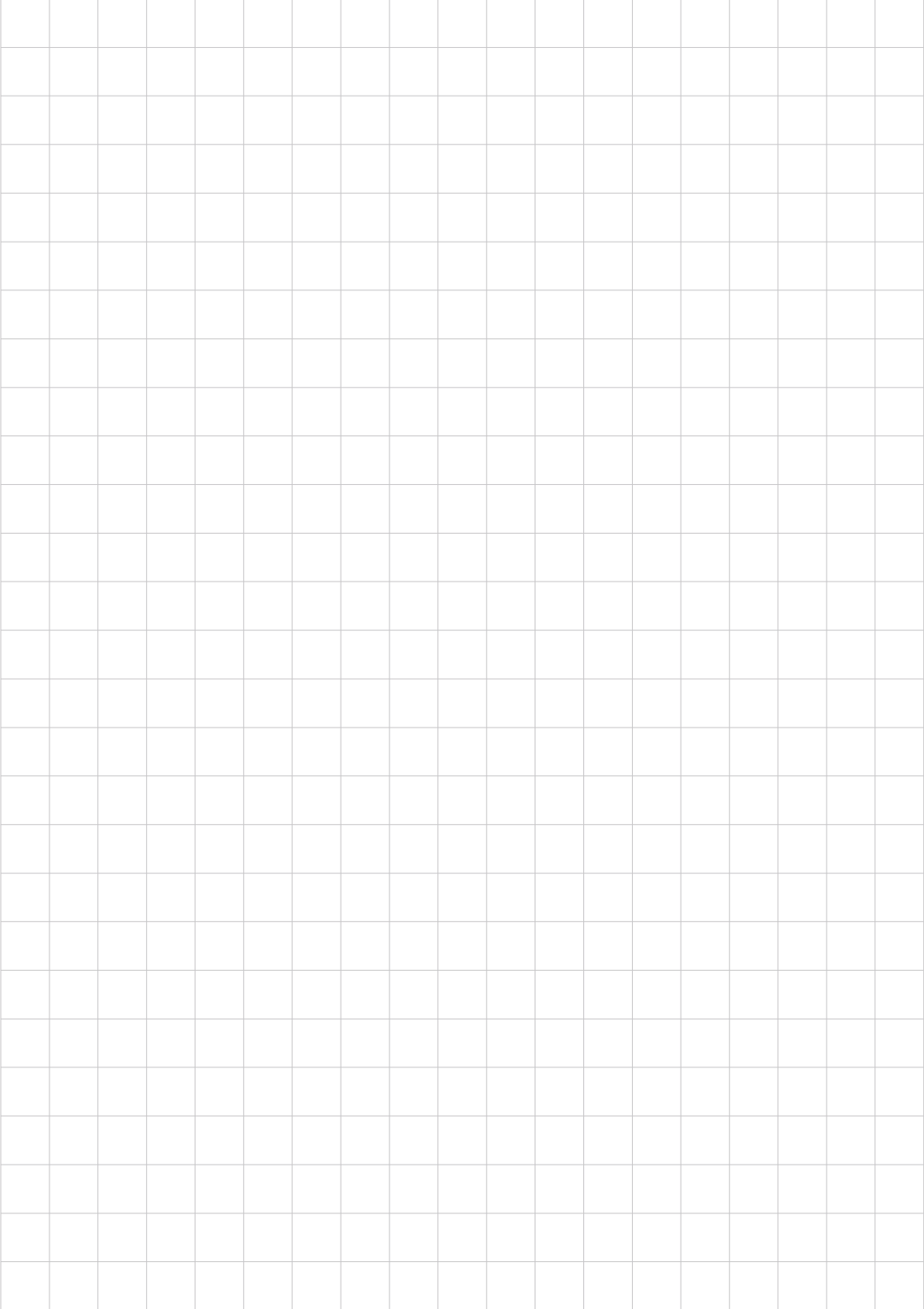


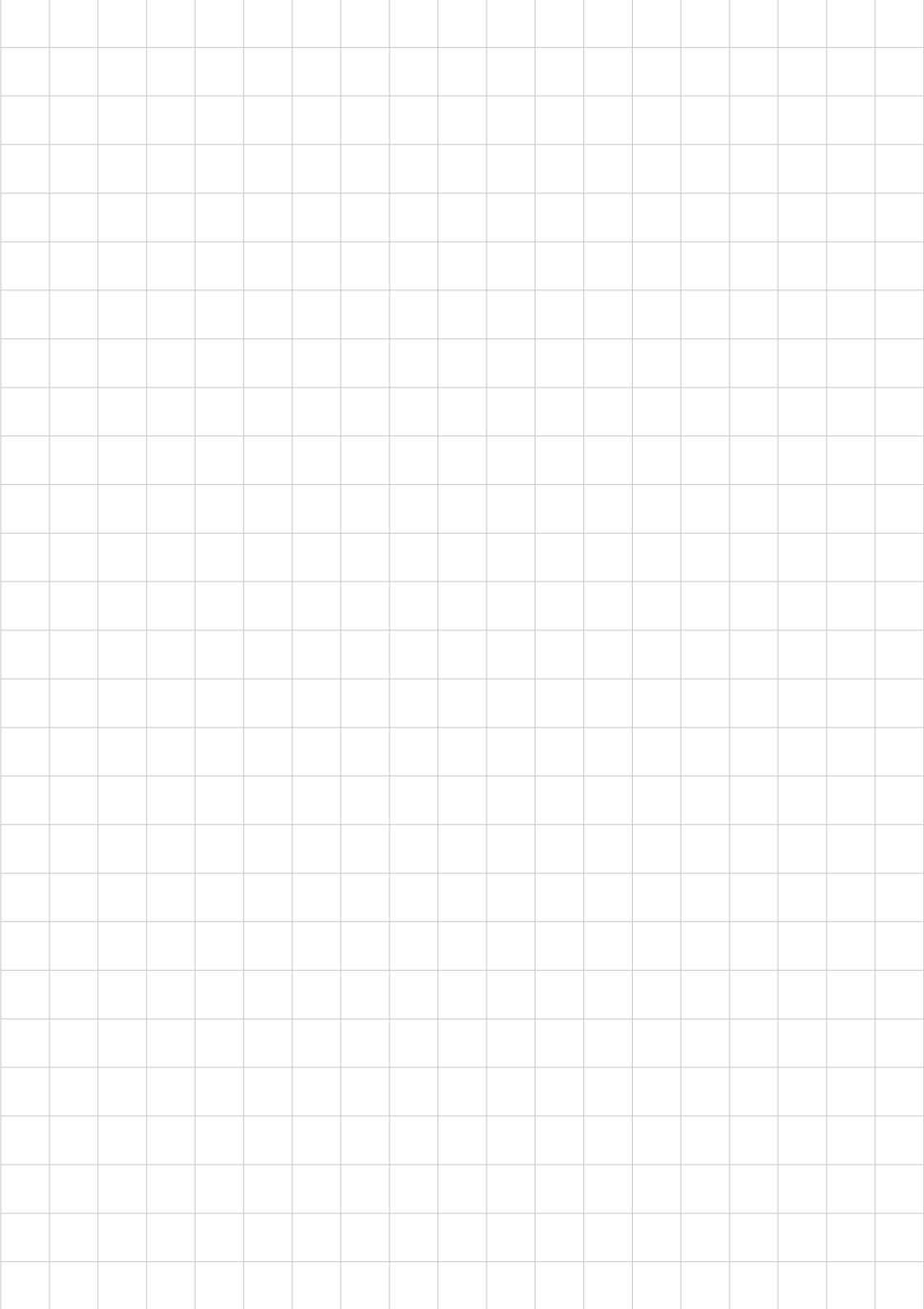


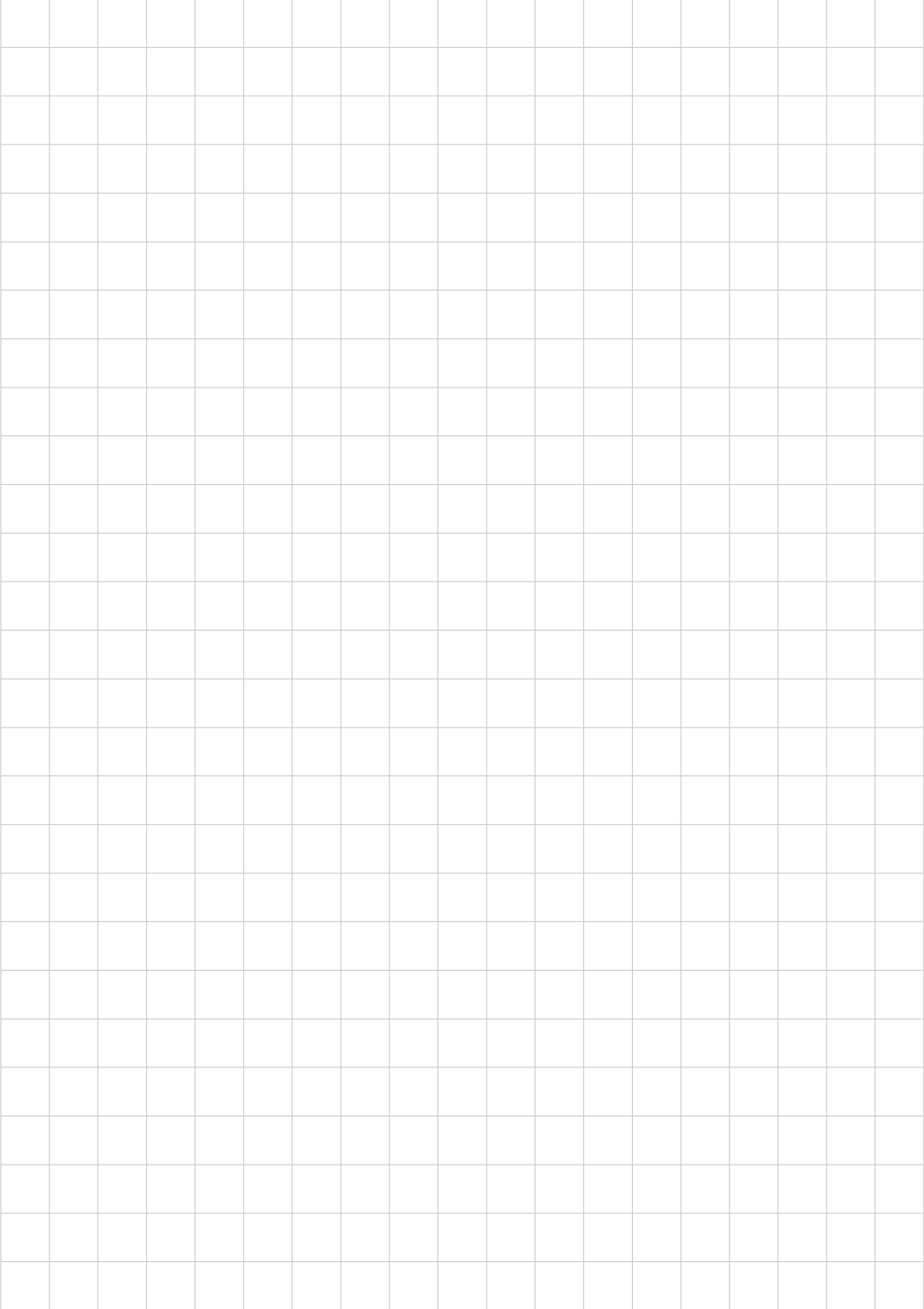


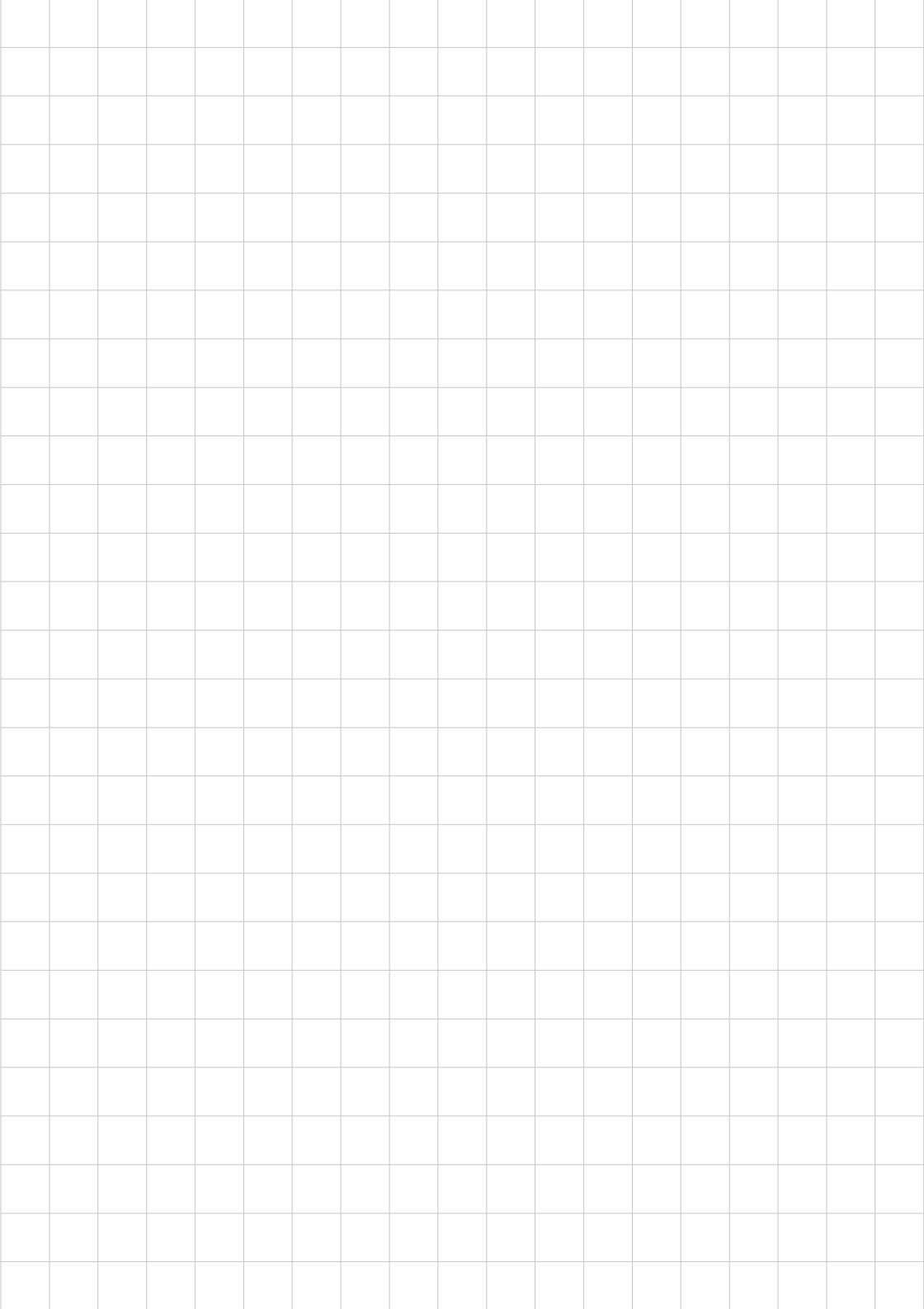












Part	Variant	Specification
Engine oil	Petrol vehicles	SAE 0W-20 meeting Jaguar Land Rover specification STJLR.03.5006.
	Diesel vehicles	SAE 0W-30 meeting Jaguar Land Rover specification STJLR.03.5007.

Oil Filter 3.0L P400 Part # LR133455
Oil with filter change = 8.82 L
Oil w/o filter change = 8.71 L
Filter cap Torque specification = 25 Nm

Brake fluid	All vehicles	It is recommended to use Land Rover brake fluid. If unavailable, then a non-petroleum based brake fluid meeting specification DOT4 ISO 4925 Class 6 may be used.
Windscreen washer fluid	All vehicles	Windscreen wash with frost protection.
Coolant fluid	All vehicles	Mixture of 50% water and 50% Havoline XLC anti-freeze, meeting Jaguar Land Rover specification STJLR.651.5003.

Item	Variant	Capacity (litres)
Fuel tank (usable)	2.0L petrol Plug in Hybrid Electric Vehicle (PHEV)	91.1
	Petrol vehicles except PHEV	90
	Diesel vehicles	89
Engine oil refill and filter change	2.0L petrol	7.0
	3.0L petrol	8.8
	2.0L diesel	7.0
	3.0L diesel	9.8
Diesel Exhaust Fluid (DEF)	Diesel vehicles with DEF	20.7
Washer fluid reservoir	All vehicles	6.25

Default Master Pin: 1926

Reset Oil Service indicator:

- 1) Turn ignition on without starting the engine (press Start / Stop button without pressing the brake pedal)
- 2) Open the driver's door
- 3) Open the hood/bonnet
- 4) Fully press the brake pedal, THEN the accelerator pedal and hold them fully pressed together for about 10 seconds (make sure the brake pedal is pressed before the gas pedal, or the routine will fail.)
- 5) A "Service Counter Resetting" message should pop up followed by "service counter reset" in the instrument cluster
- 6) Release accelerator and brake pedals, turn ignition off
- 7) Turn ignition back on and check to make sure the service message is gone
- 8) Close the hood and driver's door, done. If message is still there, repeat the procedure.

Disable keyless entry

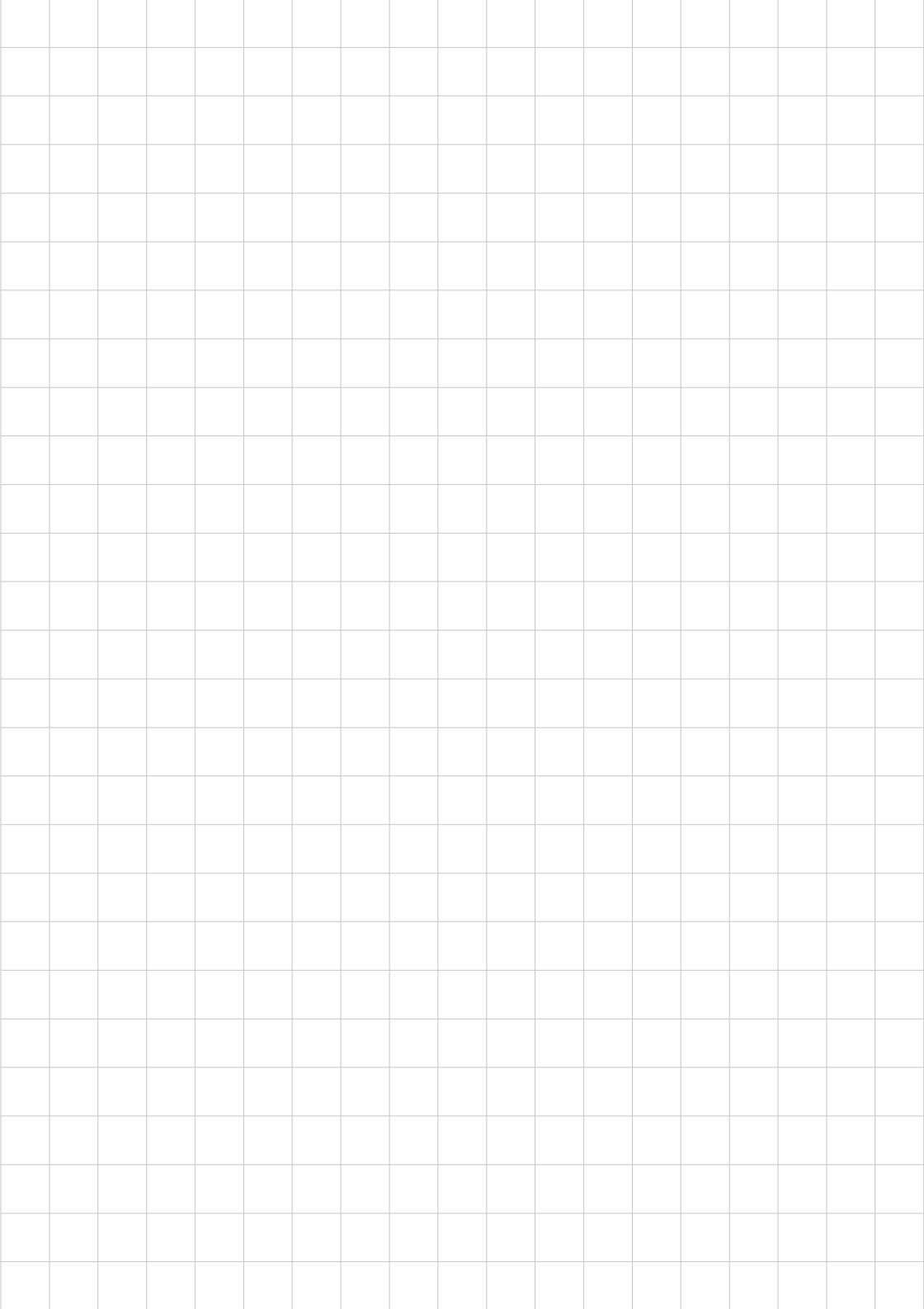
-unlock, open door. On remote hit headlight x 3 then unlock button

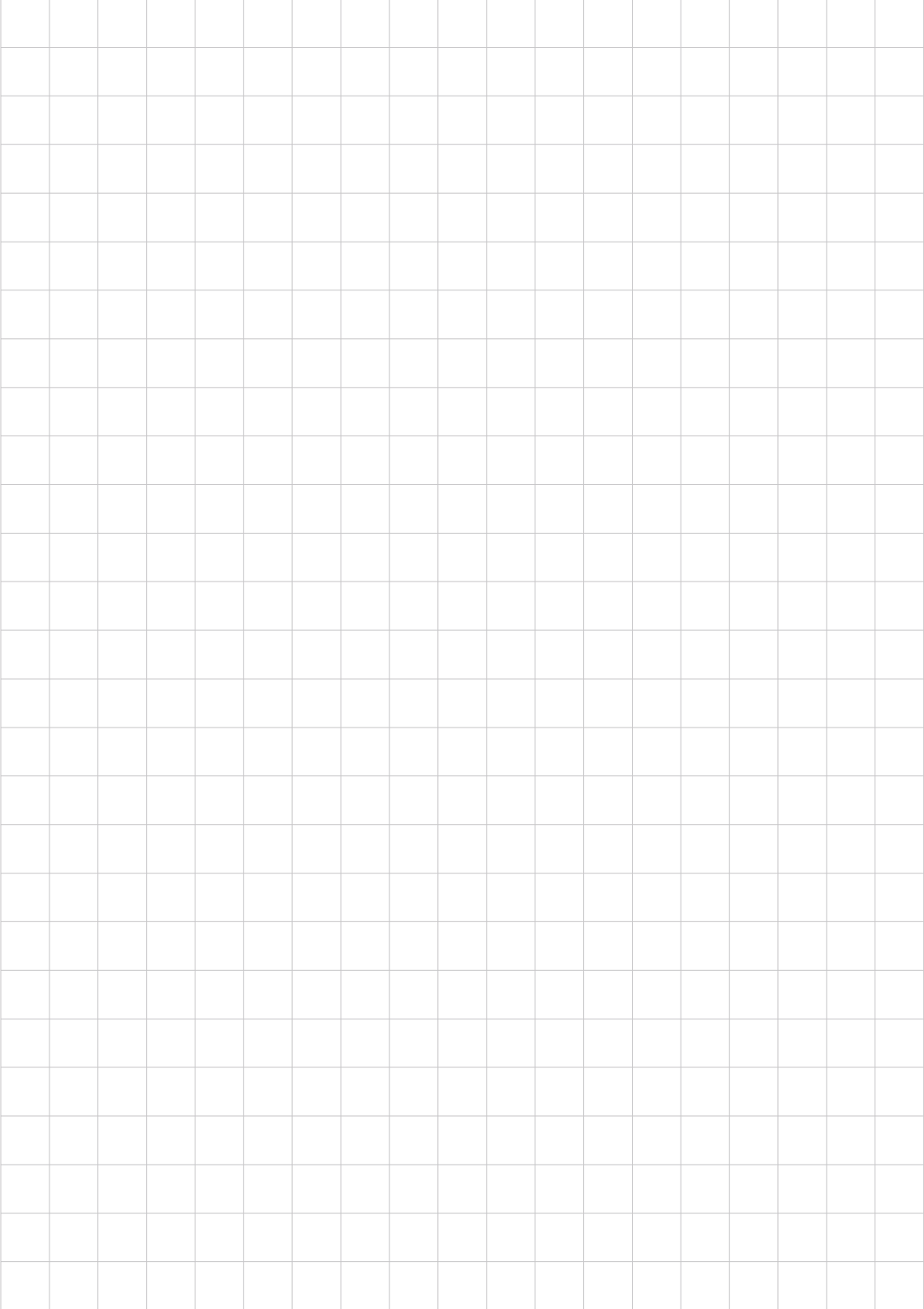
Enable keyless entry

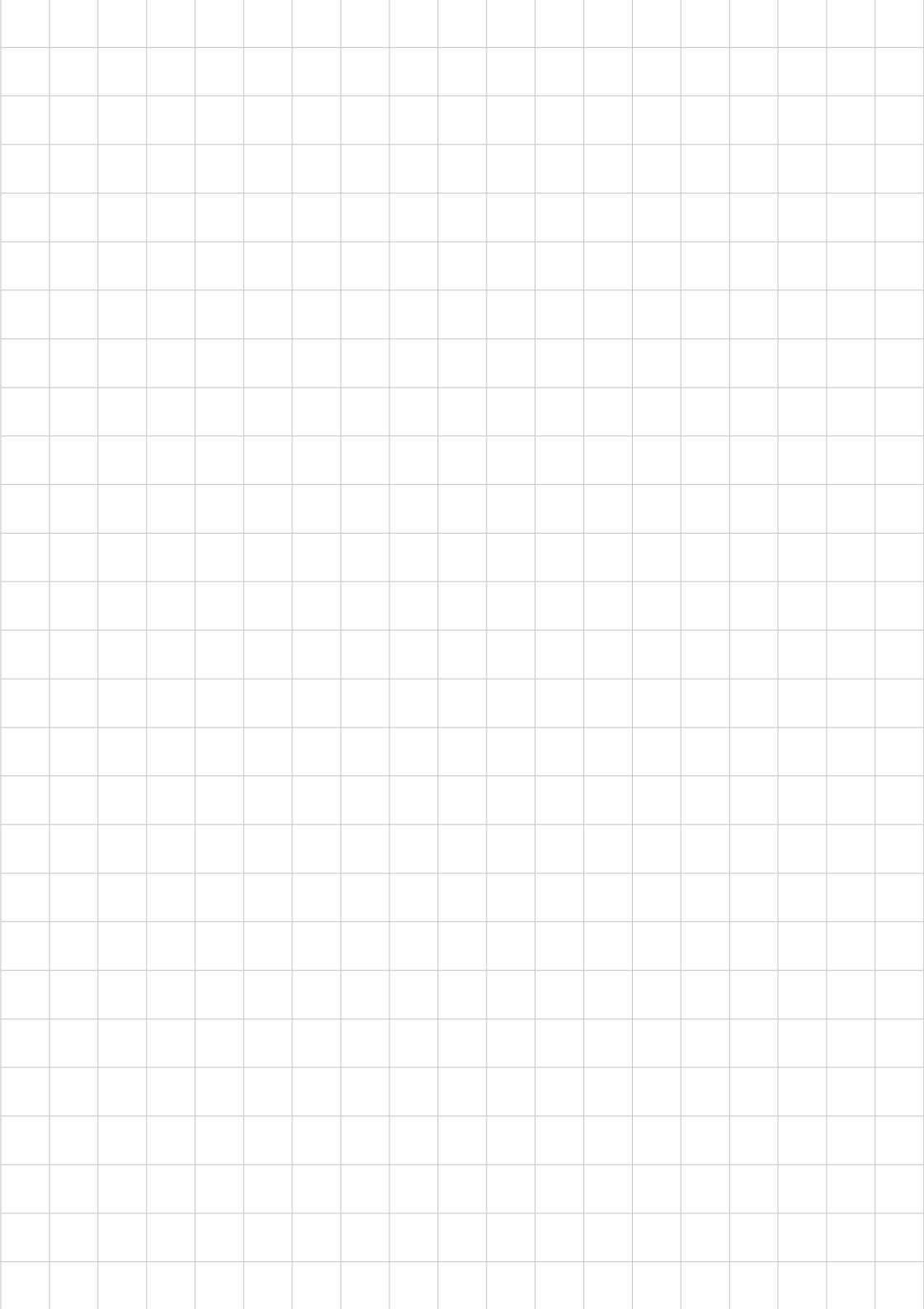
lol-unlock, open door. On remote hit headlight x 3 then lock button

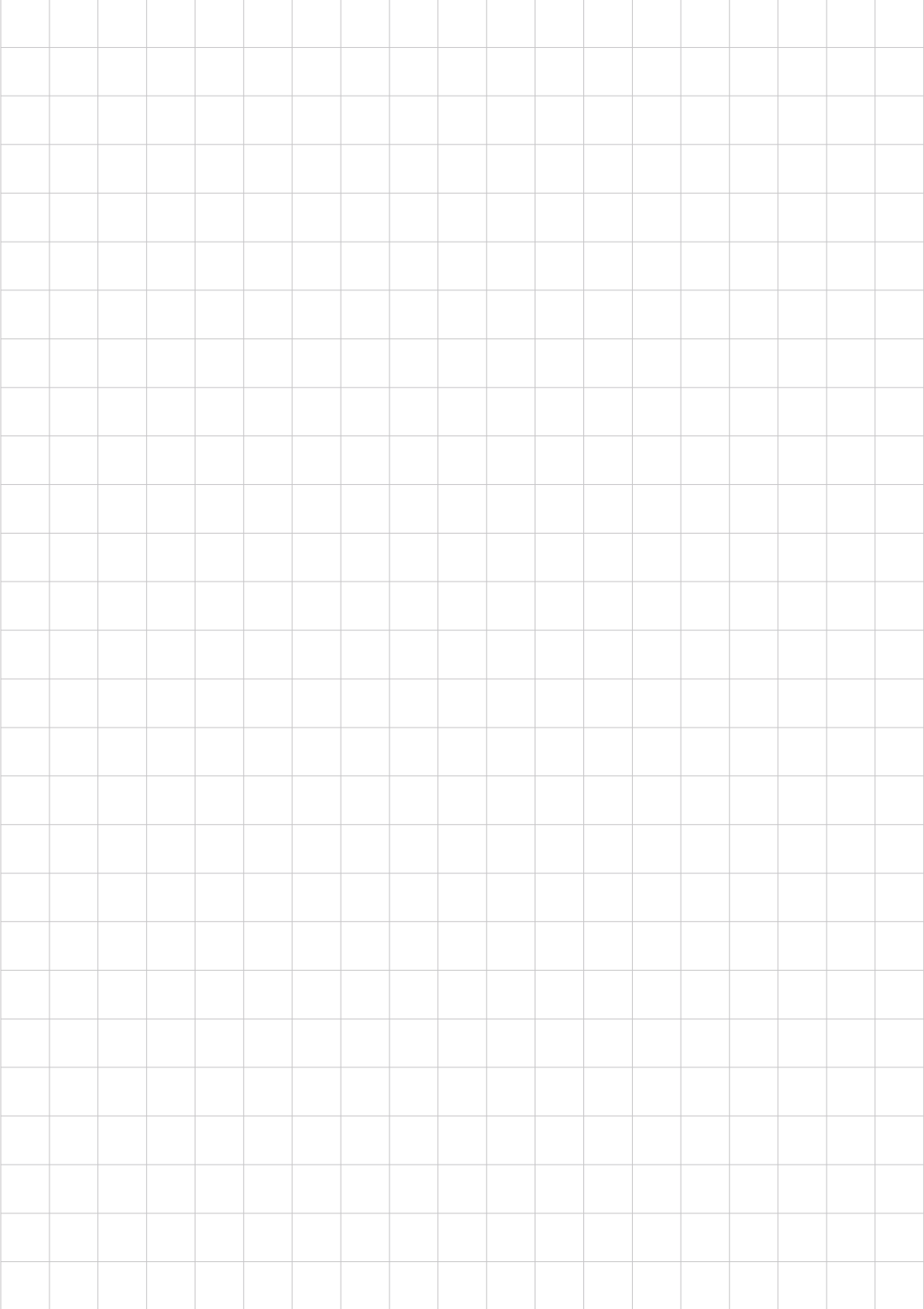
Set wipers into service position:

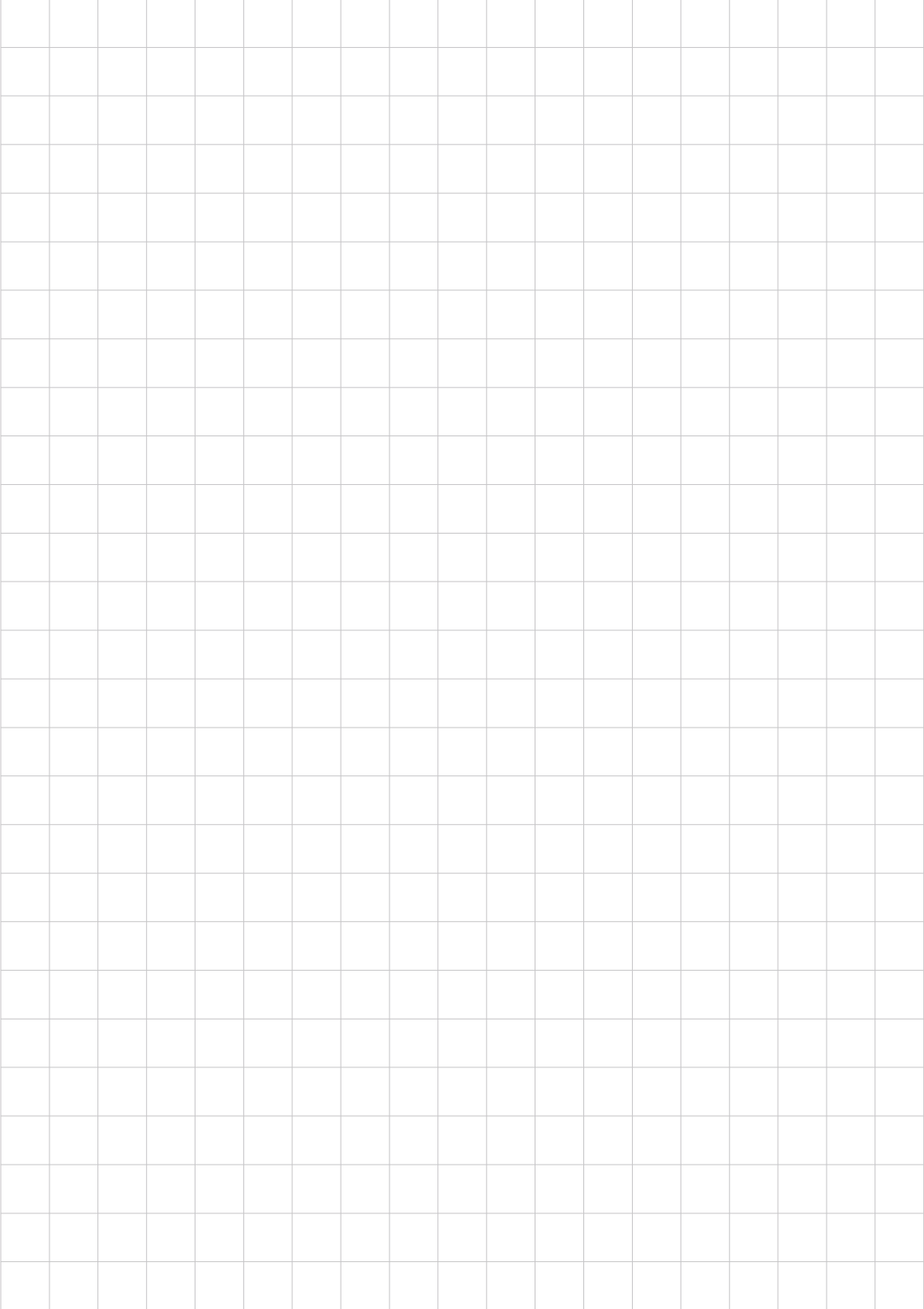
1. Make sure the vehicle's ignition is switched off.
2. Switch the vehicle's ignition on and then off again.
3. Immediately press the wash/wipe control to its lowest position, as if to command a single wipe. Hold this position while switching on the vehicle's ignition again. The wipers move to the service position.
4. When the new parts have been fitted, switch the vehicle's ignition off. The wipers return to the park position.











Vehicle Recovery Guide

INTRODUCTION



The vehicle recovery guide is designed to be used by qualified vehicle recovery personnel only.

Disclaimers

The information contained within this recovery guide was correct at the time of print. In the interest of development, the right is reserved to change specifications, design, or equipment, at any time, without notice and without incurring any obligations. For the latest information, refer to:

<https://topix.landrover.jlrext.com>.

Appropriate service methods are essential for the safe and reliable recovery of all motor vehicles, as well as the safety of the person doing the work. The vehicle recovery guide provides general directions for safe and effective vehicle recovery.

Symbols used in this guide



Safety warnings indicate either a procedure which must be followed precisely, or information that should be considered with great care, in order to avoid the possibility of personal injury.



Cautions indicate either a procedure which must be followed precisely, or information that should be considered with great care, in order to avoid the possibility of damage to the vehicle.

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VEHICLE RECOVERY

Vehicle inspection process

To avoid any later disputes, before recovery of a vehicle, inspect the interior and exterior for damage. Make a record of any damage you find and advise the owner or driver accordingly. Even minor damage can be expensive to repair, so make sure you carefully examine all areas of the vehicle.

Vehicle recovery preparation

Wear clean gloves and fit suitable protective covers on the seat(s) and floor before driving the vehicle or operating the controls.

Recovery method

Transporter or trailer:



E203234

The recommended method for recovery or transportation of the vehicle is on a transporter or trailer designed for that purpose.

Straight bar tow on all wheels:



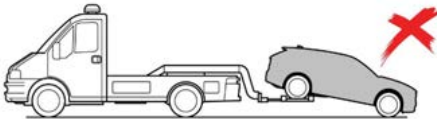
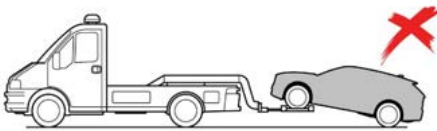
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If the vehicle cannot be recovered by using the recommended method, in an emergency, the vehicle can be towed on all four wheels for a short distance.

Vehicle Recovery Guide

- ❗ Do not tow the vehicle on all four wheels unless it is essential e.g., in an emergency.
- ❗ Do not tow the vehicle for more than 50 km (30 miles). Do not exceed 50 km/h (30 mph). Towing for a greater distance or at a higher speed may result in serious damage to the transmission.

Tow with front or rear wheels suspended:



E208029

- ⚠ **Make sure that vehicle recovery or transportation is carried out by suitably qualified personnel and the vehicle is secured correctly.**
- ❗ Do not recover the vehicle with the front or rear wheels suspended. Where circumstance requires an exception can be made for 2 Wheel Drive (2WD) derivatives.
- ❗ The recovery agent must activate the transmission park release before recovery starts. Failure to activate the transmission park release can result in serious transmission damage.

- ❗ During vehicle recovery, the smart key must remain inside the vehicle and the ignition must be switched on. This is to make sure that the steering column is unlocked.
- ❗ The vehicle should not be towed on all four wheels and should not be recovered with the front or rear wheels suspended. Doing so can result in serious transmission damage.

Note: If the vehicle's battery is to be disconnected, the steering column must be unlocked first. The steering column cannot be unlocked with the battery disconnected.

Note: For vehicles with **Secure Tracker**, make sure that the owner is advised to place the vehicle in to **Transport Mode** using the **Land Rover InControl Remote Smartphone App**, or via the InControl website. Transport mode prevents stolen vehicle tracking alerts being raised while the vehicle is being transported.

Towing points

For access to the front towing eye, see **44, FRONT TOWING EYE**.

For access to the rear towing eye, see **45, REAR TOWING EYE**.

TRANSPORTING THE VEHICLE

- ⚠ **Use extreme caution when moving or towing the vehicle. Death or serious injury may occur.**
- ❗ Only use the lashing points or over-wheel lashings. Lashing over the body or suspension is not permissible, as settling of the suspension causes the lashing straps to slacken.

Vehicle Recovery Guide

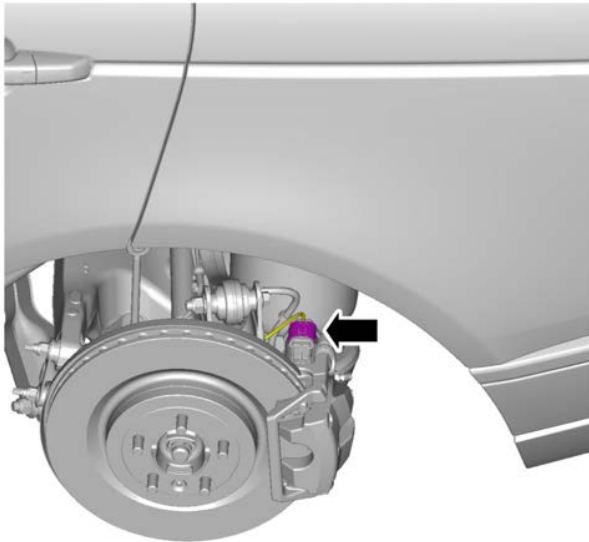
❗ Do not fit lashing straps through the wheel spokes. Doing so can result in damage to the wheels and wheel trims.

❗ The vehicle should not be towed on all four wheels and should not be recovered with the front or rear wheels suspended. Doing so can result in serious transmission damage.

The recommended method for recovery or transportation of the vehicle, is on a transporter or trailer designed for that purpose.

ELECTRIC PARKING BRAKE (EPB) RELEASE

⚠ Chock the wheels and make sure that all personnel are clear of the vehicle before carrying out the following pr



E146982

If the Electric Parking Brake (EPB) does not release, because of a system fault or flat battery, for example, operate the emergency release procedure. Release the EPB, as follows:

Note: *The use of other methods such as starting aids, jump leads, and dollies may negate the need to perform this procedure.*

Deactivation

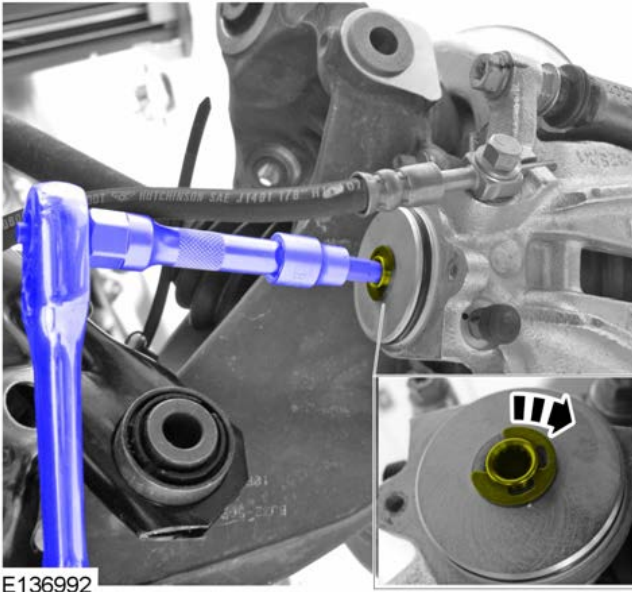
- Disconnect the vehicle battery.
- Raise and support the vehicle.

⚠ **Make sure to support the vehicle with axle stands.**

- Remove a rear wheel.
- Release the electrical connector.

- Remove and discard the two bolts securing the EPB actuator to the brake caliper.

Torque: 11 Nm.



- Repeat the procedure for the other side of the vehicle.

Activation

- ❗ New O-ring seal is to be fitted.
- ❗ New bolts are to be fitted.
- To refit, reverse the removal procedure.
- Calibrate the EPB using the diagnostic tool. See **9, ON-BOARD DIAGNOSTICS (OBD) CONNECTOR LOCATION**.


TRANSMISSION PARK RELEASE


Make sure the following warnings and cautions have been read and fully understood before carrying out the transmission park release. Failure to follow the guidance given could lead to serious injury, death, or vehicle damage.



Before attempting the transmission park release procedure, make sure that the vehicle is secured with wheel chocks and apply the Electric Parking Brake (EPB). Failure to secure the vehicle can result in unexpected movement of the vehicle, which could result in personal injury.

Vehicle Recovery Guide

 When Park [P] is released, the vehicle is free to move. Be sure to secure the vehicle to prevent unwanted movement. Unwanted movement of the vehicle can result in vehicle damage.

 The transmission must be removed from Park (P) before recovering the vehicle. Failure to follow the transmission park release procedure can result in serious transmission damage.

The transmission park release procedure locks the transmission in Neutral (N) and prevents the transmission from automatically selecting Park (P).

Note: The following conditions must be satisfied before the transmission park release procedure will function. If any of these conditions are not met, the transmission park release procedure will not work.

1. The vehicle must be stationary.
2. The EPB must be applied.
3. The vehicle battery must be sufficiently charged.
4. The engine cranks but fails to start.
5. PHEV vehicles must be disconnected from any charging equipment.

To release the park mechanism, follow this procedure:

1. Apply the EPB.
2. Press the **Start** button. Do not press the brake pedal when pressing the **Start** button at this stage.
3. Press and hold the brake pedal with your left foot during the next stages of the process.
4. Press and hold the accelerator fully for one second, then release fully.

5. Press and hold the accelerator fully for four seconds then release fully. The instrument panel displays a message that confirms the gearbox is in service mode.
6. Press the **Start** button to release from Park (P). The gear selector displays a flashing (P).
7. Move the gear selector to the Neutral (N) position. The instrument panel and gear selector displays (N).
8. Release the brake pedal.

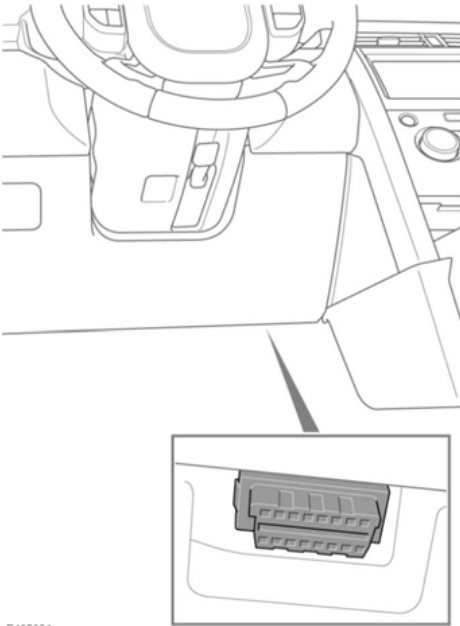
The vehicle can now be towed once the EPB has been released.

Note: If the vehicle remains stationary for longer than 10 minutes the system automatically re-engages Park 'P' gear to prevent battery drainage.

Note: If the vehicle battery is not sufficiently charged the transmission park release procedure cannot be completed. The vehicle cannot be towed until the park release procedure is successfully completed.

Note: If the engine is unable to crank, the park release procedure cannot be completed. The vehicle cannot be towed until the park release procedure is successfully completed.

ON-BOARD DIAGNOSTICS (OBD) CONNECTOR LOCATION




E195301

The On-Board Diagnostics (OBD) connector is located under the fascia, on the driver's side.

VEHICLE CHARGING SAFETY

Make sure to read and fully understand the following warnings and cautions before attempting to charge the vehicle. Failure to observe cautions and warnings may result in vehicle damage, injury, or death in the event of an accident.

 **Never disassemble, remove, or replace high voltage components, cables, or connectors. High voltage cables and connectors are coloured orange for identification purposes.**



Never use a charging cable if there is any damage to the unit.



Never use an extension lead or multiple socket in order to extend the reach of a charging cable.



Never connect a plug adaptor to a charging cable when travelling abroad.



Always fully unwind the charging cable. Failure to fully unwind the charging cable could lead to overheating of the cable.



Before initially connecting a charging cable, make sure the electricity supply has been checked and approved by a suitably qualified person.



Do not expose the charge cable to rain, a direct jet of water, or a water splash. Do not immerse the charge cable in water.



Never attempt to pull the cable from the charging port once it is locked. Damage to the cable's locking mechanism will result. If disconnection is required, press the unlock button on the smart key once for AC charging, twice for DC charging. The cable's locking mechanism re-engages after a short time.



Always select the correct charging cable for the vehicle when using a public charging station, with a connector that matches the vehicle's charging port.

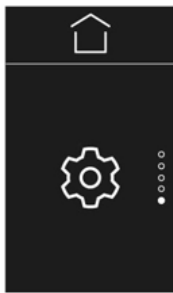


Always contact a retailer/authorised repairer if the charging cable fails to release regularly.

Vehicle Recovery Guide

Wet mode inhibits the screen to prevent accidental operation when submerged in water, or subjected to water splashes. Swipe up from the home screen until the water drop symbol is displayed. Swipe up from the home screen until the water drop symbol is displayed. Press the drop to activate wet mode. To exit wet mode, touch the screen four times in quick succession. A progress bar confirms screen touches until the screen is unlocked.

Settings



E279061

Swipe up from the home screen until the **Settings** cog wheel is displayed. Pressing the cog wheel will display a clock face icon, from which the displayed time can be adjusted.

ENGINE START BACKUP

The engine start backup feature is required to disarm the alarm and start the engine if either of the following occur:

- The vehicle is unlocked using the emergency key blade.
- The smart key is not detected by the vehicle.

The engine start backup feature can only be used when the instrument panel displays **Place Smart Key as shown, and press start button.**



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To carry out the engine start backup procedure:

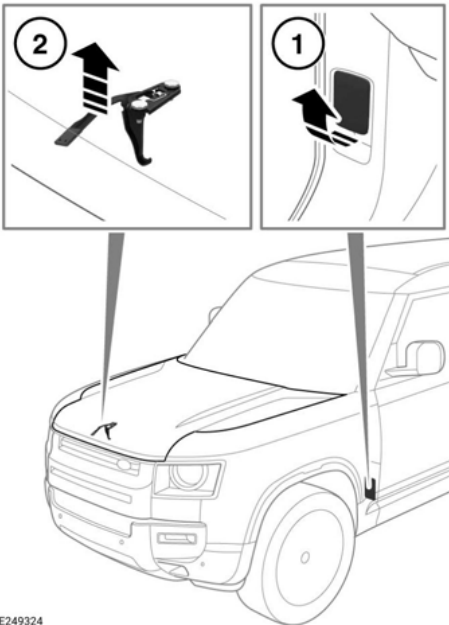
1. Position the smart key flat against the side of the steering column.
Note: *There are markings on the steering column to help locate the correct position.*
2. While holding the smart key in position, firmly press the brake pedal.
3. Press and release the engine **START/STOP** button.

Once the engine starts, release the brake pedal, if it is safe to do so.

If the smart key is not recognised, or the engine fails to start, consult a retailer/ authorised repairer.

OPENING THE BONNET


-  Before opening the bonnet, make sure that the ignition is switched off and the smart key is removed from the vehicle. Failure to do so can potentially result in serious injury or death.





E249324

1. Pull the handle, located in the driver's side front footwell.
2. Lift the bonnet safety catch, located underneath the centre of the bonnet. Raise the bonnet.

CLOSING THE BONNET

-  Before closing the bonnet, make sure that no-one is obstructing the closing area and that hands and clothes are clear. The closing bonnet may cause serious injuries.


-  Do not drive with the bonnet secured by the safety catch alone. If the bonnet opens while driving, it may lead to a collision, which may cause serious injuries or death.


-  When closing the bonnet, make sure to stand in front of the vehicle. Do not attempt to close the bonnet while standing at the side of the vehicle. Doing so may result in incorrect latching of the bonnet, which may cause serious injuries or death.

To close the bonnet:

1. Using both hands, lower the bonnet and let it drop from a height of between 20 to 50 cm.
2. Try to lift the front edge of the bonnet, near both corners, to check that it is securely engaged.
3. If the bonnet lifts slightly, it is not properly latched. Open the bonnet again, and with a little more force, try again to close it.

FLUID FILLER LOCATIONS

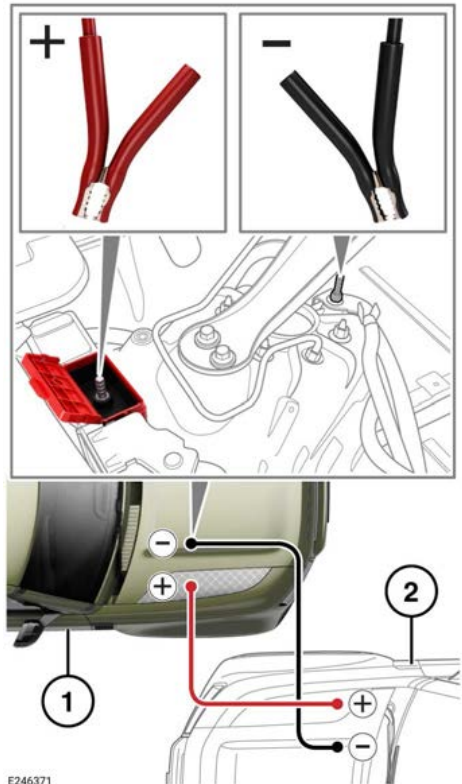
-  Always observe and follow the safety precautions when working in the engine compartment. Failure to do so may result in serious injury or death.

-  Do not start the engine, or drive the vehicle, if leaked fluid could possibly make contact with a hot surface. Any leaked fluid coming into contact with a hot surface, such as the exhaust, could result in combustion. Seek qualified assistance immediately.

Vehicle Recovery Guide

- ❗ Make sure there is no physical contact between the donor and disabled vehicles, other than the jump leads. Failure to do so may cause damage to the vehicle.
- ❗ Make sure that any battery or starting aid is a 12-volt device. Unapproved devices can cause damage to the vehicle.
- ❗ Disconnect the jump leads before operating any electrical equipment. Failure to do so may cause damage to the vehicle.
- ❗ Make sure the jump leads being used are of high quality, in good condition and are rated to the engine capacity of both vehicles. Incorrectly rated jump leads may not supply sufficient power to the disabled vehicle's battery and may overheat when attempting to start the vehicle.

Note: Before connecting the jump leads to the disabled vehicle's boost point terminals, make sure the donor vehicle's boost point connections are correct. Also make sure that all electrical equipment has been switched off.



E246371

1. Disabled vehicle.
2. Donor vehicle.

To connect the jump leads:

1. Connect the positive (red) jump lead to the recommended positive (+) boost point terminal on the donor vehicle.

Note: Refer to the donor vehicle's Owner's Handbook for the recommended positive boost terminal.

2. Connect the other end of the positive (red) jump lead to the positive (+) boost point terminal on the disabled vehicle, as illustrated.

Vehicle Recovery Guide

3. Connect the negative (black) jump lead to the recommended negative (-) boost point terminal on the donor vehicle.

Note: Refer to the donor vehicle's Owner's Handbook for the recommended negative boost terminal.

4. Connect the other end of the negative (black) jump lead to the negative (-) boost point terminal on the disabled vehicle, as illustrated.

Note: Check that all cables are clear of any moving components. Make sure that all four connections are secure.

5. Start the engine of the donor vehicle. Allow the engine to idle for a few minutes.

6. Start the engine on the disabled vehicle.

Note: Do not switch on any electrical circuits on the disabled vehicle until after the jump leads are removed.

7. Allow both vehicles to idle for 2 minutes.

8. Switch off the donor vehicle.

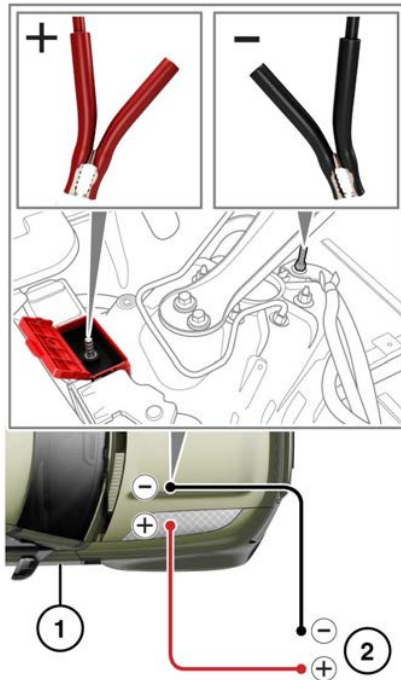
9. Disconnect the negative (black) jump lead from the previously disabled vehicle.

10. Disconnect the negative (black) jump lead from the donor vehicle.

11. Disconnect the positive (red) jump lead from the previously disabled vehicle.

12. Disconnect the positive (red) jump lead from the donor vehicle.

CONNECTING A STARTING AID



E292592

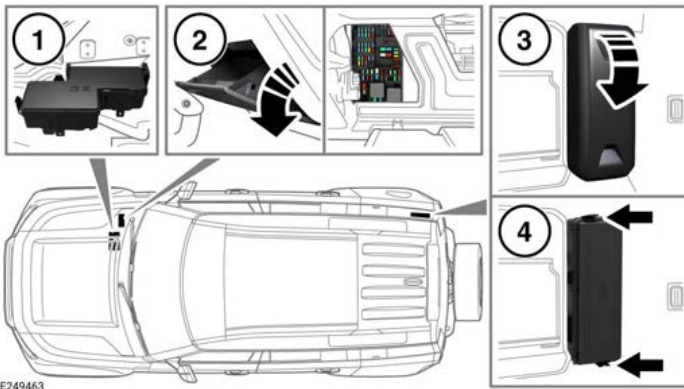
1. Disabled vehicle.
2. Starting aid, or a slave battery.

To start the vehicle using a starting aid, or a slave battery, carry out the following:

1. Connect the positive (red) jump lead to the vehicle's positive (+) boost point terminal, as illustrated.
2. Connect the negative (black) jump lead to the vehicle's negative (-) boost point terminal, as illustrated.
3. Switch on the starting aid.
4. Start the engine. Allow the engine to idle.
5. Disconnect the negative (black) jump lead from the vehicle's boost point terminal.
6. Switch off the starting aid.
7. Disconnect the positive (red) jump lead from the vehicle's boost point terminal.

Vehicle Recovery Guide

FUSE BOX LOCATIONS



E249463

⚠ Take care to protect the fuse boxes from moisture. Refit the fuse box lid at the earliest opportunity.

Access the fuses as follows:

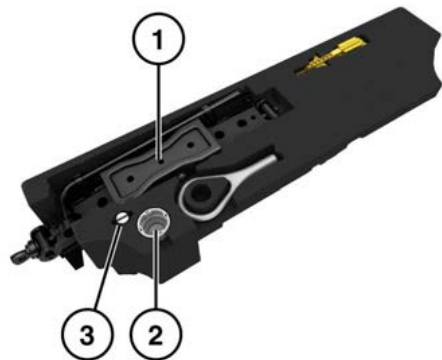
1. Engine compartment fuse box:
Remove the under-bonnet cover. See the Owner's Handbook. Release the four clips to remove the fuse box lid.
Note: The fuse box label is located on the inner surface of the lid.
Note: The fuse box is always located on the passenger's side of the vehicle.
2. Passenger compartment fuse box:
Open the glovebox. See the Owner's Handbook. Firmly press the top of the support stay at each end and lower the glovebox into the footwell.
Note: The fuse box label for the passenger compartment fuse box is contained within the load space fuse box.
3. Loadspace fuse box cover: Pull the fuse box cover forwards to release the six clips.

4. Loadspace fuse box: Release the two clips to remove the fuse box lid.

TOOL KIT



Make sure the relevant safety warnings have been read and understood before using the tool kit. See the Owner's Handbook.



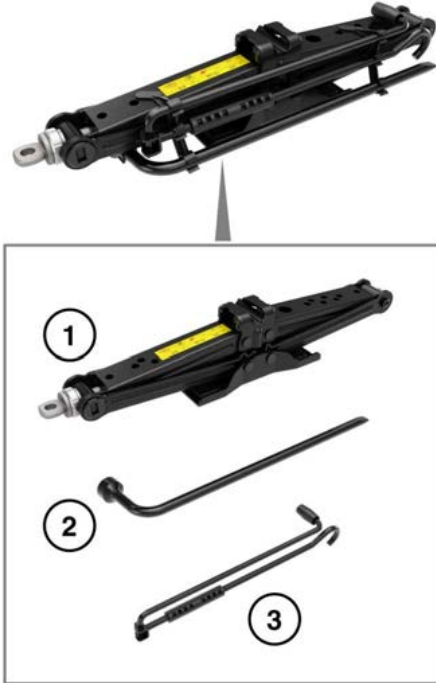
E246857

The tool kit is located beneath the loadspace floor panel.

The tool kit consists of the following:

Vehicle Recovery Guide

1. Jack assembly.
2. Locking wheel nut adaptor.
3. Spare wheel alignment tool.



E246858

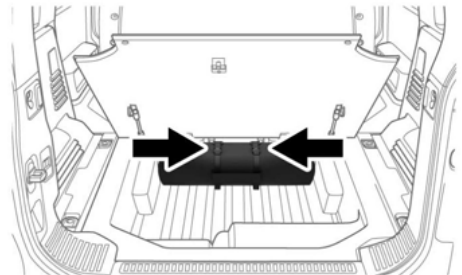
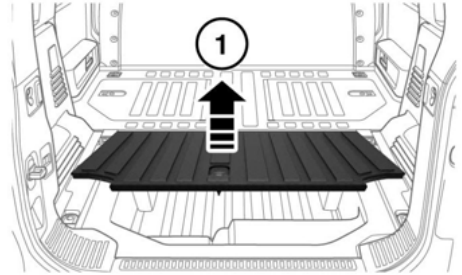
The jack assembly consists of:

1. Jack: Observe the instructions printed on the jack.
2. Wheel brace.
3. Jack handle.

Note: Tool types and positions may vary from the illustration.

Note: Examine the jack occasionally. Clean and grease the moving parts, particularly the screw thread, to prevent corrosion.

Note: Take careful note of the storage position for each tool, as it is important to return the tools to their correct position after use.



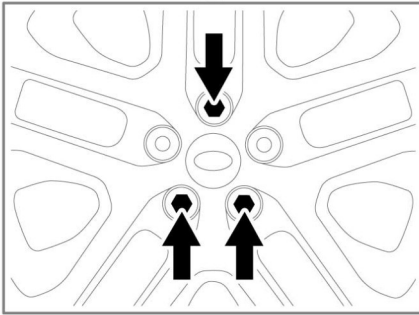
E268890

Commercial vehicles: The tool kit is stored in a bag, and secured in the storage compartment under loadspace floor, with 2 straps.

Plug-in Hybrid Electric Vehicles (PHEVs): The tool kit is stored in a bag, and secured to the loadspace floor with 2 straps.

REMOVING THE SPARE WHEEL

Make sure to read and fully understand the following warnings. Failure to comply with the safety instructions may result in an accident, leading to serious injury or death.



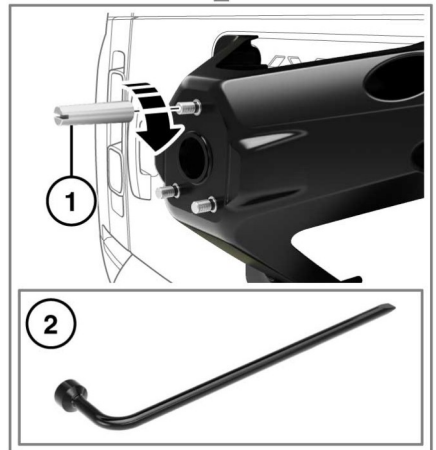
E246859

To remove the spare wheel:

1. Carefully remove the spare wheel's cover.
2. Use the locking lug nut adapter and the lug wrench to remove the two locking lug nuts. See **23, TOOL KIT**.
3. Remove the standard lug nut.

⚠ WARNING

Make sure that the spare wheel is supported when removing the final lug nut. Failure to do so may result in serious injury or death.



E253061

A spare wheel alignment tool is supplied in the vehicle's tool kit. See **23, TOOL KIT**. Install the spare wheel alignment tool as shown before storing the spare wheel on the vehicle:

1. Install the spare wheel alignment tool (1) to the spare wheel carrier.
2. Tighten the spare wheel alignment tool using the end of the lug wrench (2).

Reverse the procedure to store the changed wheel. Tighten the spare wheel lug nuts to 103 lb.ft. (140 Nm).

Vehicle Recovery Guide

WHEEL CHANGING

Make sure to read and fully understand the following warnings. Failure to comply with the safety instructions could result in an accident, leading to serious injury or death.

⚠ WARNING

Make sure the relevant safety warnings have been read and understood before changing a wheel. See the Owner's Handbook.

⚠ WARNING

Disconnect any trailer or caravan from the vehicle.

⚠ WARNING

The standard vehicle jacking points should be used to raise the vehicle. Do not raise the vehicle by jacking under the fixed side steps, deployable side steps, or side tubes.

NOTICE

Only jack the vehicle using the jacking points described, or damage to the vehicle could occur.

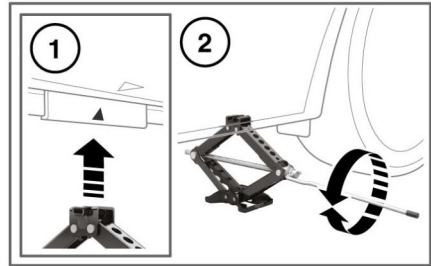
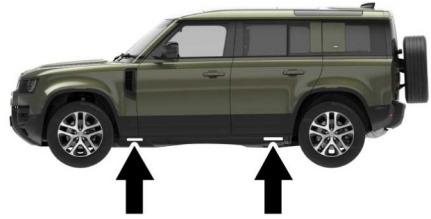
Note: To allow easier access to the vehicle jacking points, it is recommended that the deployable side steps are in the stored position. See the Owner's Handbook.

Note: Vehicles fitted with deployable side steps: Select off-road height before jacking the vehicle. See the Owner's Handbook.

Before raising the vehicle:

1. Remove the required tools from the vehicle. See **23, TOOL KIT**.
2. Remove the spare wheel. See **24, REMOVING THE SPARE WHEEL**.

3. Correctly position the wheel chocks. See the Owner's Handbook.



E246861

To change a wheel:

1. Use the lug wrench to loosen the lug nuts of the wheel to be replaced. Turn half a turn counter-clockwise.
2. Locate the jack under the relevant jacking point (1).

NOTICE

Do not allow the jack to contact the sill at any other point, as damage may result.

3. Unfold the handle from the stored position on the jack. Fit the lug wrench to the end of the cranking handle.
4. Rotate the handle clockwise (2) to raise the jack, until the jack pin locates into the jacking point.
5. Raise the vehicle until the wheel is clear of the ground.

⚠ WARNING

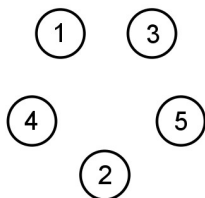
Avoid rapid, jerky actions. Rapid, jerky actions may cause the vehicle and jack to become unstable, which may result in an accident, leading to serious injury or death.

6. Remove the lug nuts. Place the lug nuts together where they cannot roll away.
7. Remove the wheel and place it to one side.

NOTICE

Do not lay the wheel on its face, as this may damage the finish.

8. Fit the spare wheel to the hub.
9. Refit the lug nuts. Lightly tighten the lug nuts. Make sure the wheel is making contact with the hub evenly.
10. Make sure the area under the vehicle is clear of obstructions. Lower the vehicle slowly and smoothly.
11. With all of the wheels on the ground and the jack removed, fully tighten the lug nuts. Tighten the lug nuts, in the sequence shown in the illustration, to the correct torque of 103 lb.ft (140 Nm).



E132675

Note: *If it is not possible to torque the lug nuts when a wheel is replaced, set to the correct torque as soon as possible.*

If a spare wheel is to be fitted, use a suitable blunt tool to knock the center cap out of the removed wheel. Use hand pressure only to press the center cap into the newly fitted spare.

Check and adjust the tire pressure as soon as possible.

FRONT TOWING EYE

⚠ WARNING

The front towing eye is designed for on-road recovery only. If the towing eye is used for any other purpose, it may result in vehicle damage and can cause serious injury or death.

⚠ WARNING

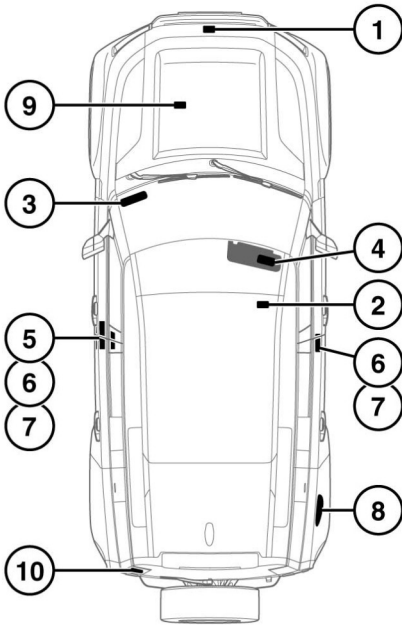
Use extreme caution when moving or towing the vehicle. Death or serious injury may occur.

NOTICE

Remove the front towing eye cover before driving off-road, to prevent damage or loss. The cover must be replaced before driving on the road.

The front towing eye is located behind a removable cover in the front bumper.

Vehicle Recovery Guide



E248496

1. Hood locking platform: Air Conditioning (A/C) label.
2. Top of the battery: Battery warning symbols.
3. The Vehicle Identification Number (VIN) is stamped onto a plate, visible through the lowest part of the right side of the windshield. The number is also stamped into the right-side suspension tower.

Note: The VIN number may be requested by the retailer/authorized repairer.


Note: The vehicle's built date is shown on the VIN plate. The built-date is the calendar month and year in which the body and powertrain assemblies were conjoined and the vehicle was driven from the production line. The vehicle's built-date is also shown on the tire pressure label, attached to the right-side B pillar.


4. Passenger side sun visor: Air bag label, vehicle handling label.
5. B pillar: VIN number.
6. B pillar or inside base of the front door: Tire pressure labels.
7. B pillar: Air bag warning label.
8. Inside the fuel filler flap: Fuel label.
9. Engine number: Inlet manifold.
10. Rear taildoor warning information.


It is important to be familiar with these subjects, to make sure that the vehicle and its features are used safely.

Vehicle Recovery Guide


FRONT TOWING EYE

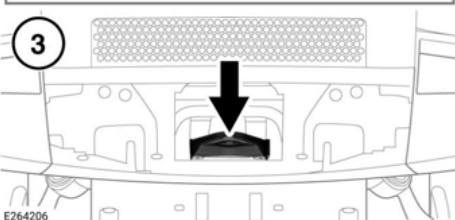
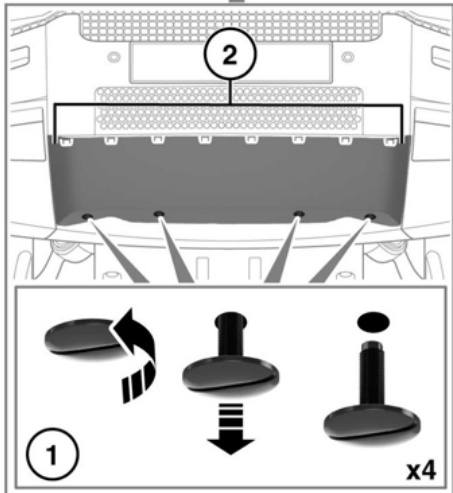
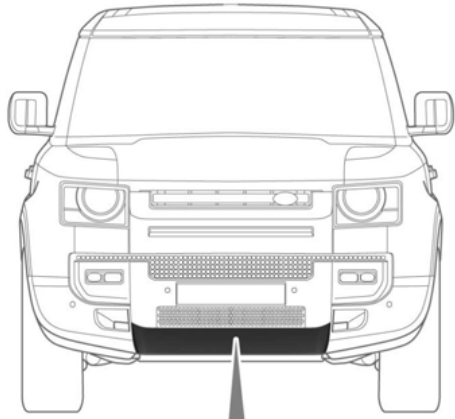
 The front towing eye is designed for both on-road and off-road recovery (up to 6.5 tonnes). If the towing eye is used for any other purpose, it may result in vehicle damage and can cause serious injury or death.

 Use extreme caution when moving or towing the vehicle. Death or serious injury may occur.

 Remove the front towing eye cover before driving off-road, to prevent damage or loss. The cover must be replaced before driving on the road.

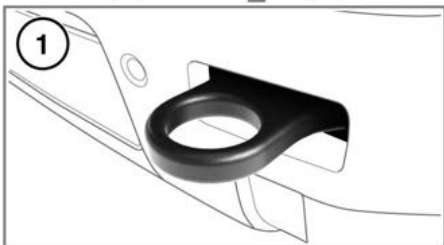
The front towing eye is located behind a removable cover in the front bumper.

 The rear exposed towing eyes are designed for both on-road and off-road recovery (up to 6.5 tonnes). If the exposed towing eyes are used for any other purpose, it may result in vehicle damage and can cause serious injury or death.



To remove the cover:

1. Rotate each of the fasteners counter-clockwise with a suitable tool.



CALCULATE TOTAL RESISTANCE

1. **Figure out the static Weight of the load.** Includes all equipment, luggage, fuel, and anything the vehicle may be carrying. Adjust your static weight to compensate for weight transfer if there is more than one surface, for example the casualty is mired in mud and then will be on grass. The weight transfer number is added to the static weight, and it's calculated using the same gradient resistance numbers as we showed above (e.g. multiply static weight by 0.25 for a gradient of 15°). This adjusted number is the one you should use to calculate the surface and gradient resistance in step 2 and 3 below.

2. Calculate the surface resistance (ARR)

The surface resistance is **either** rolling **or** damage **or** mire resistance, whichever is the largest number.

TOTAL WEIGHT x 0.05 = "ROLLING HARD"

TOTAL WEIGHT x 0.15 = "ROLLING SOFT"

TOTAL WEIGHT x 0.666 = DAMAGE

TOTAL WEIGHT x 0.75 = "TIRE MIRE"

TOTAL WEIGHT x 1.0 = "WHEEL MIRE"

TOTAL WEIGHT x 1.5 = "BODY MIRE"

3. Add or subtract the Added Gradient Resistance (AGR)

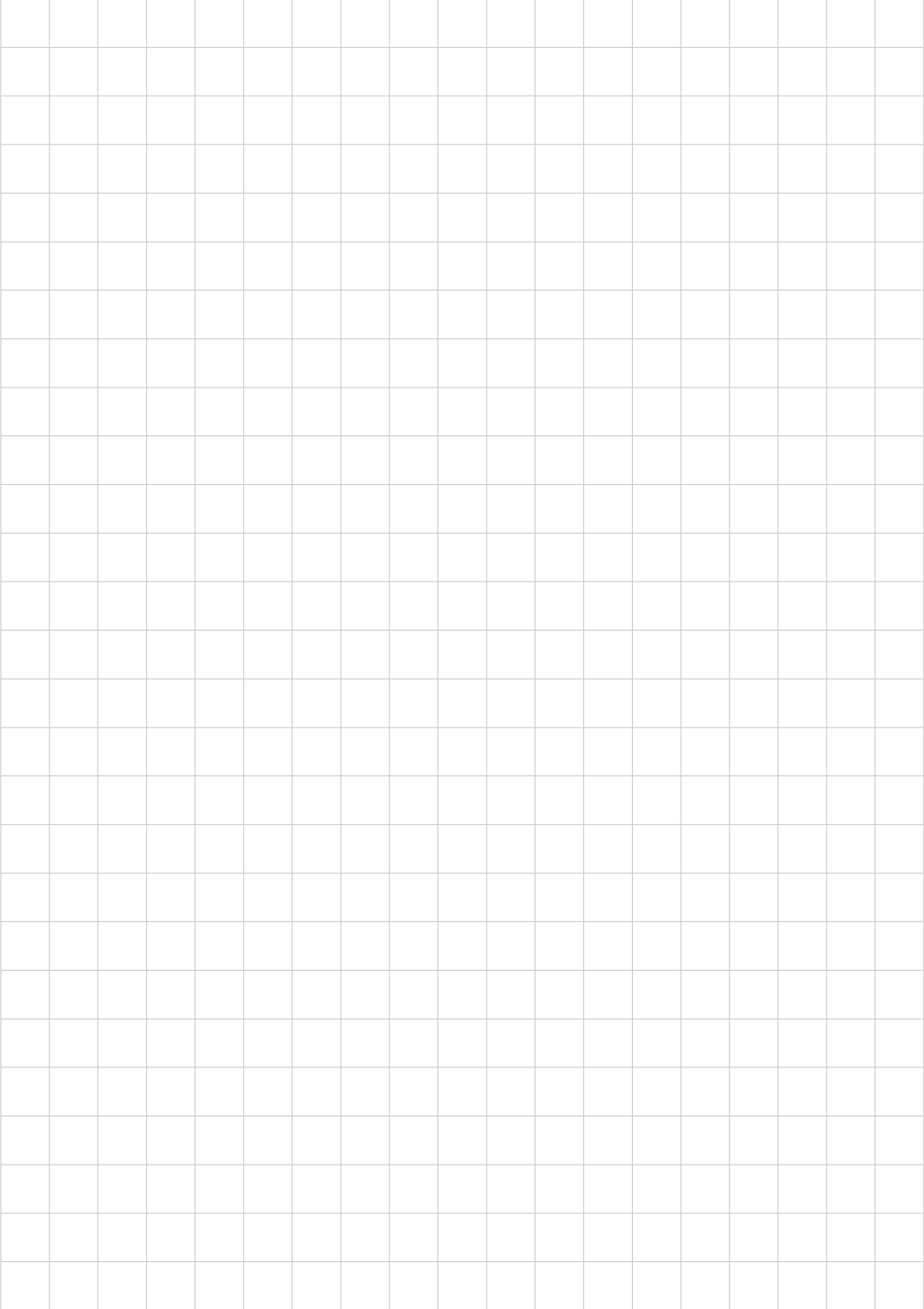
Add it if moving casualty uphill. Subtract if moving casualty downhill.

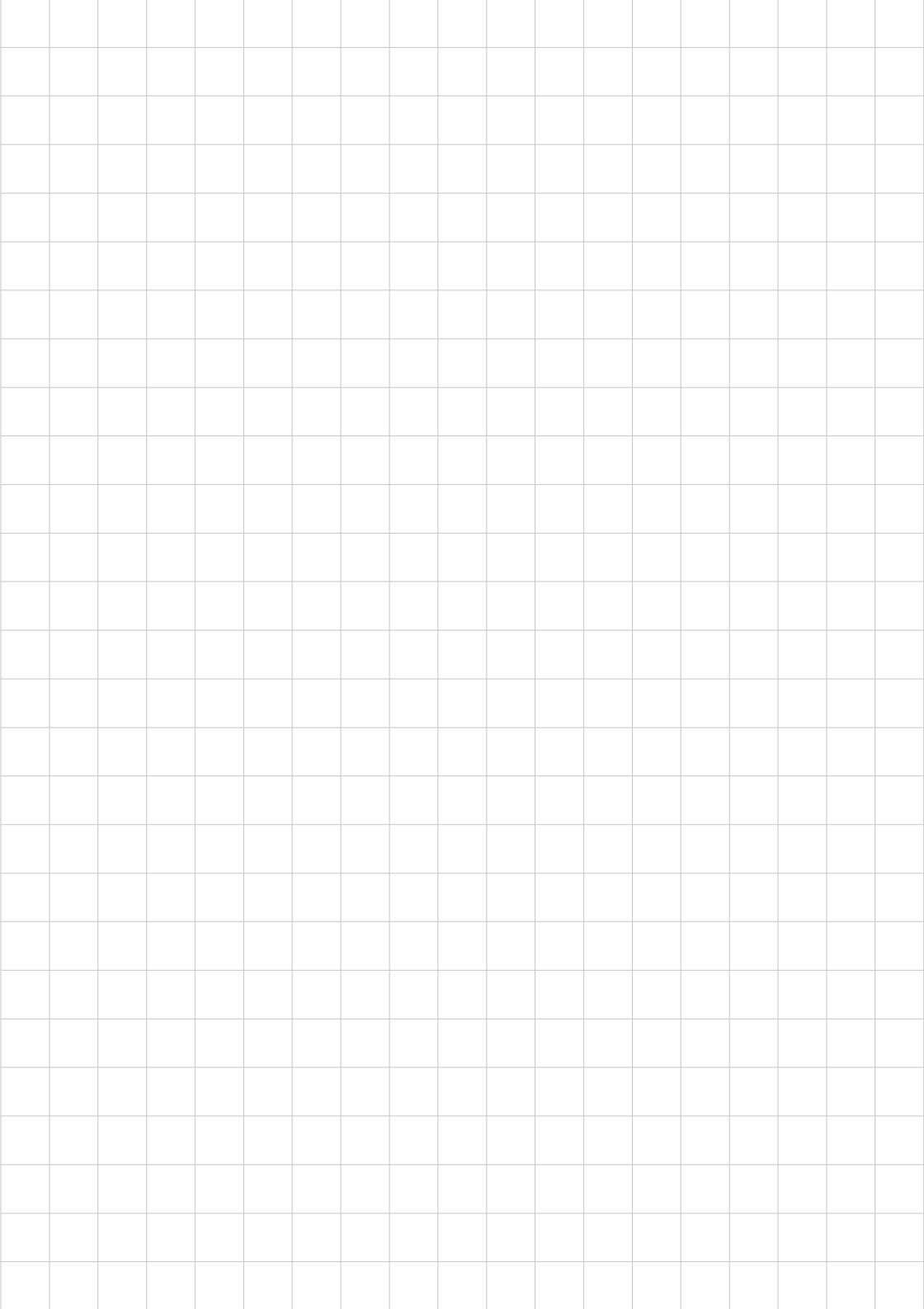
TOTAL WEIGHT x 0.25 = 15° Gradient

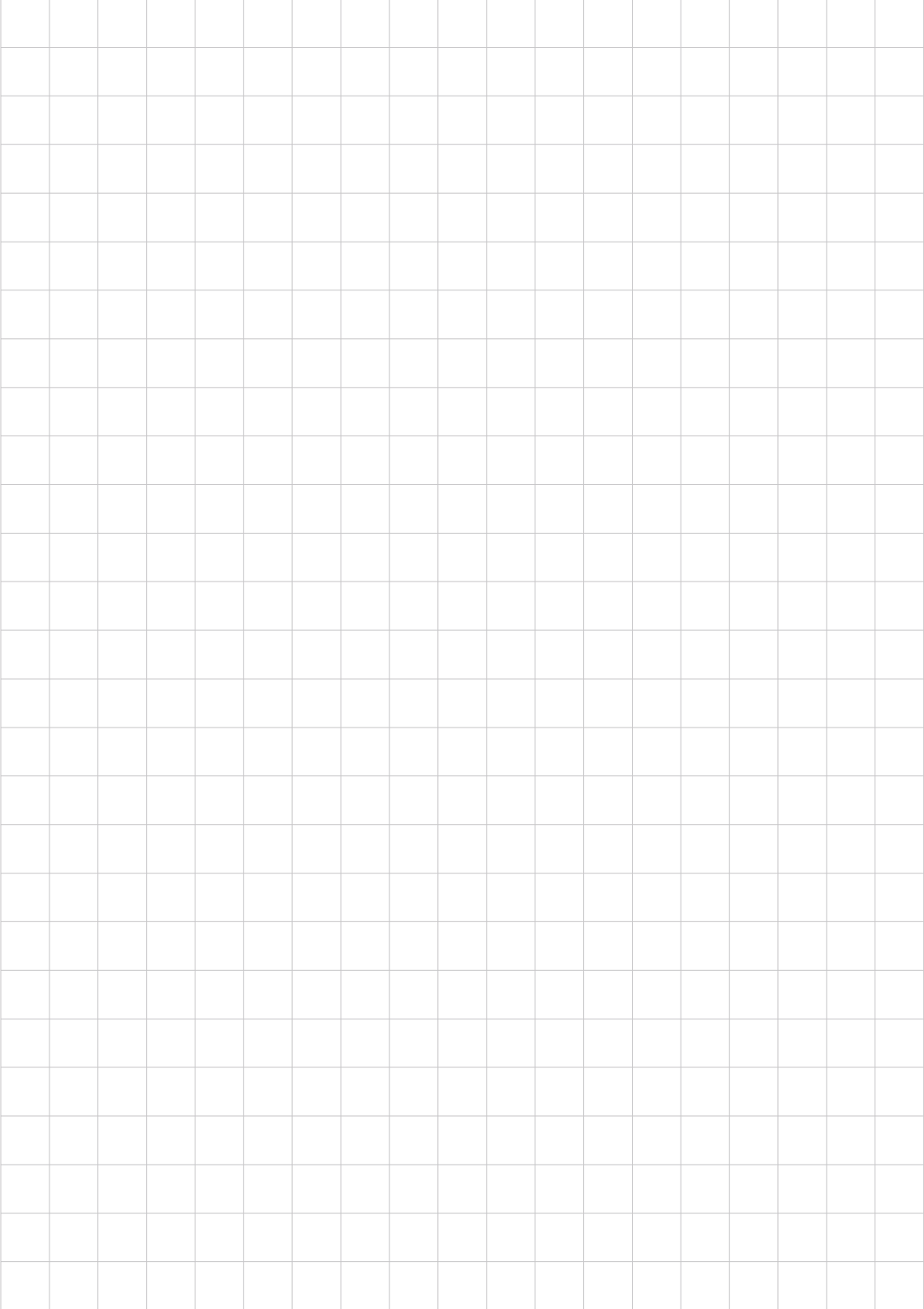
TOTAL WEIGHT x 0.50 = 30° Gradient

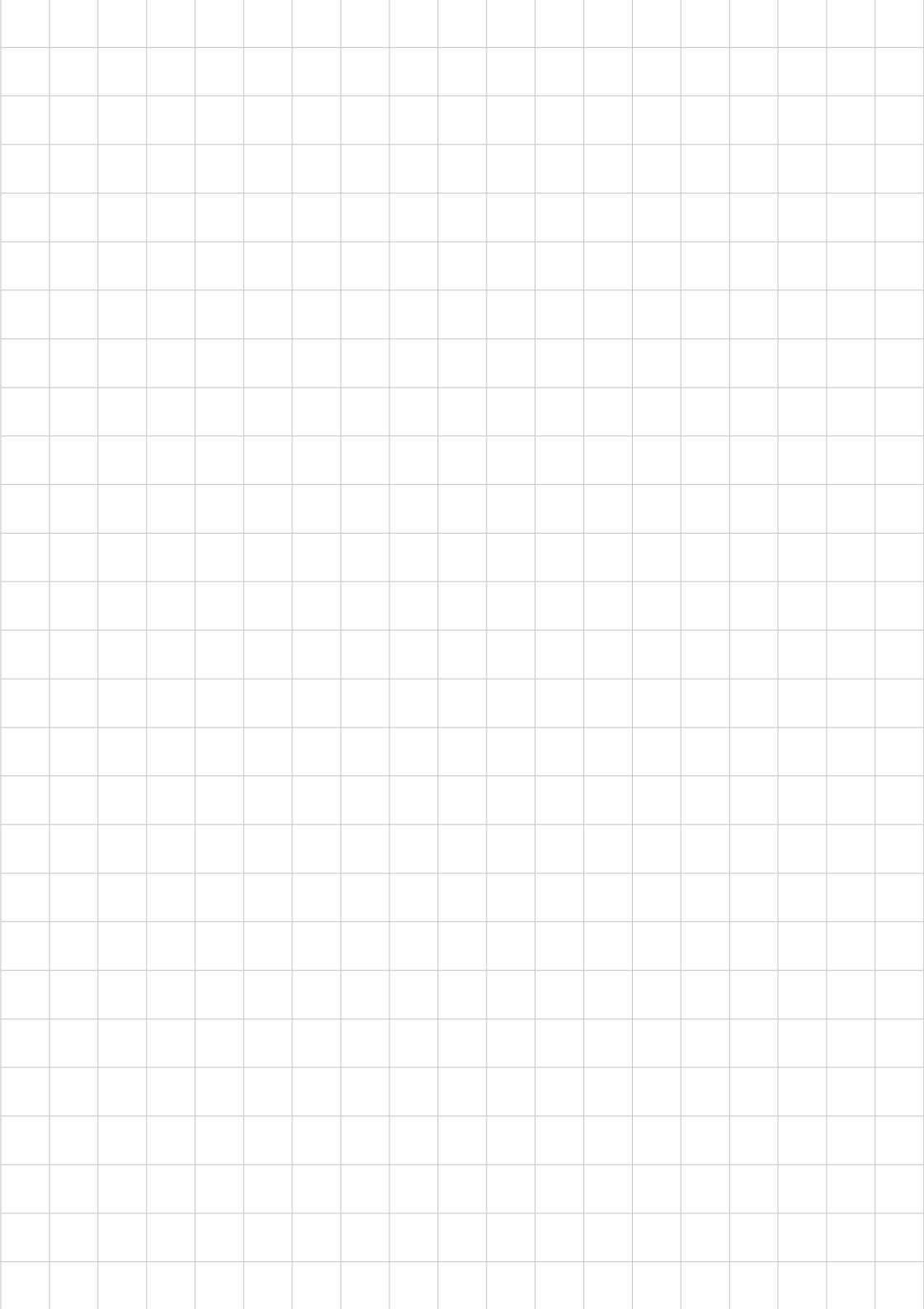
TOTAL WEIGHT x 0.75 = 45° Gradient

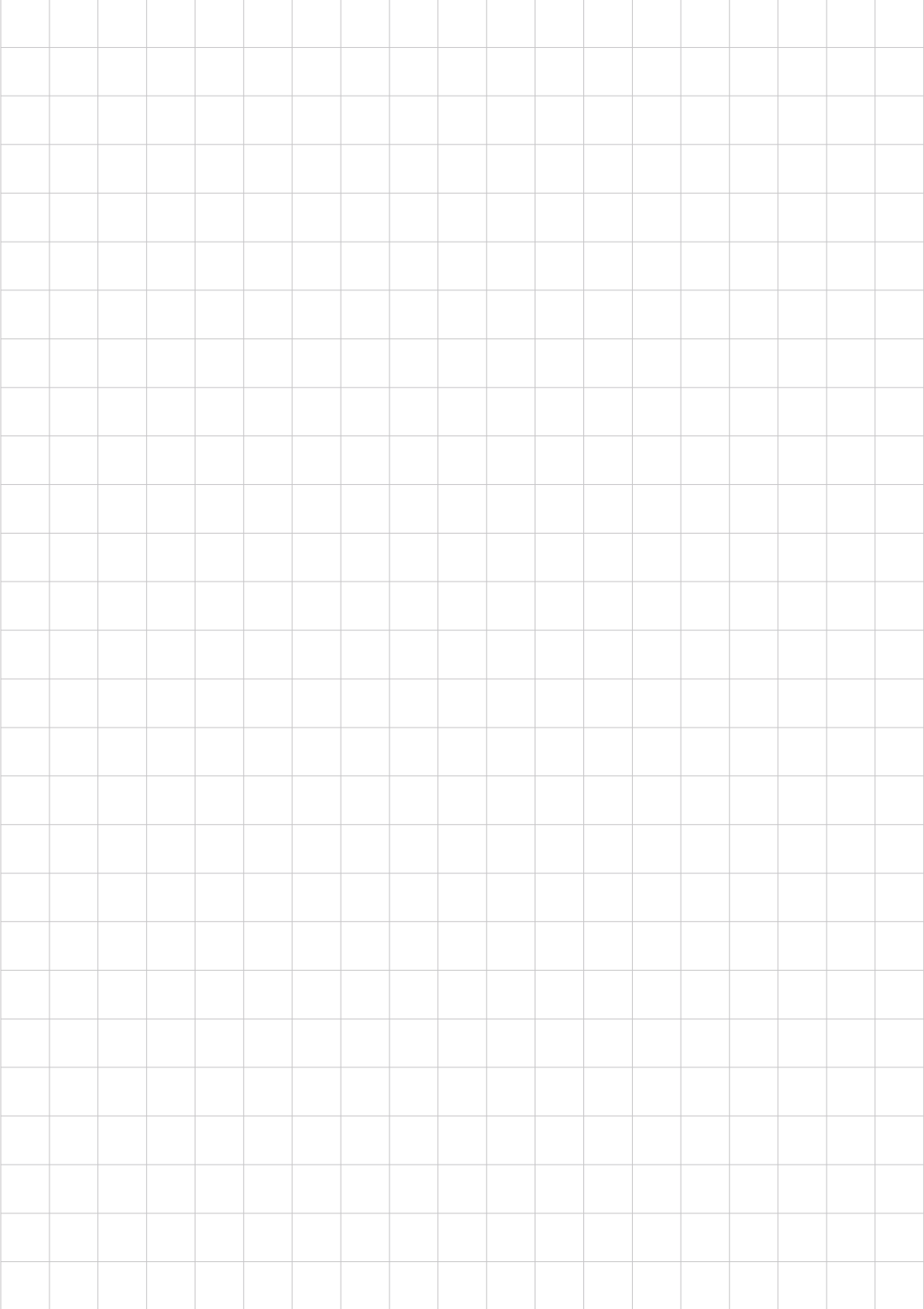
Minimum Capacity Required = W + ARR + AGR

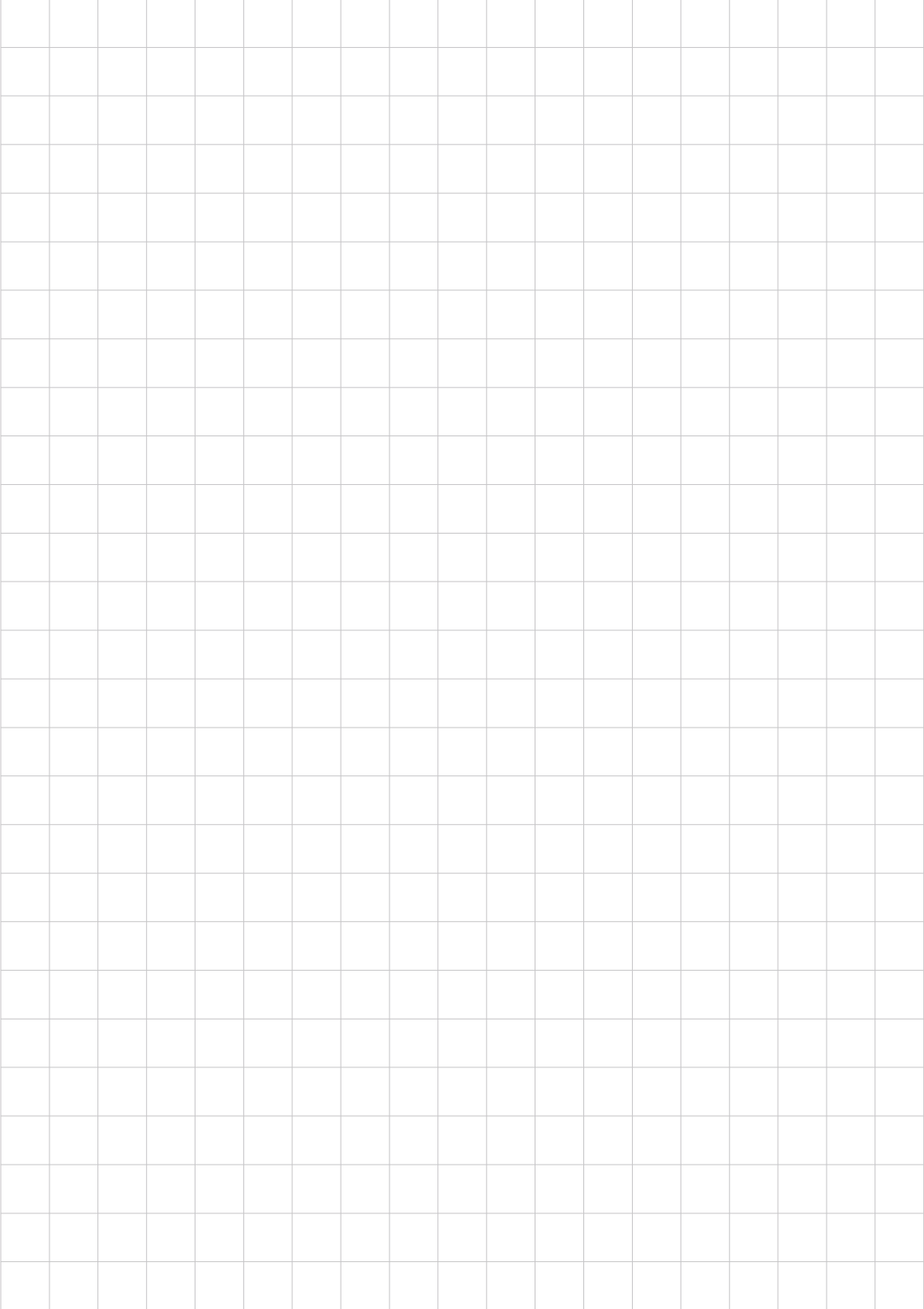


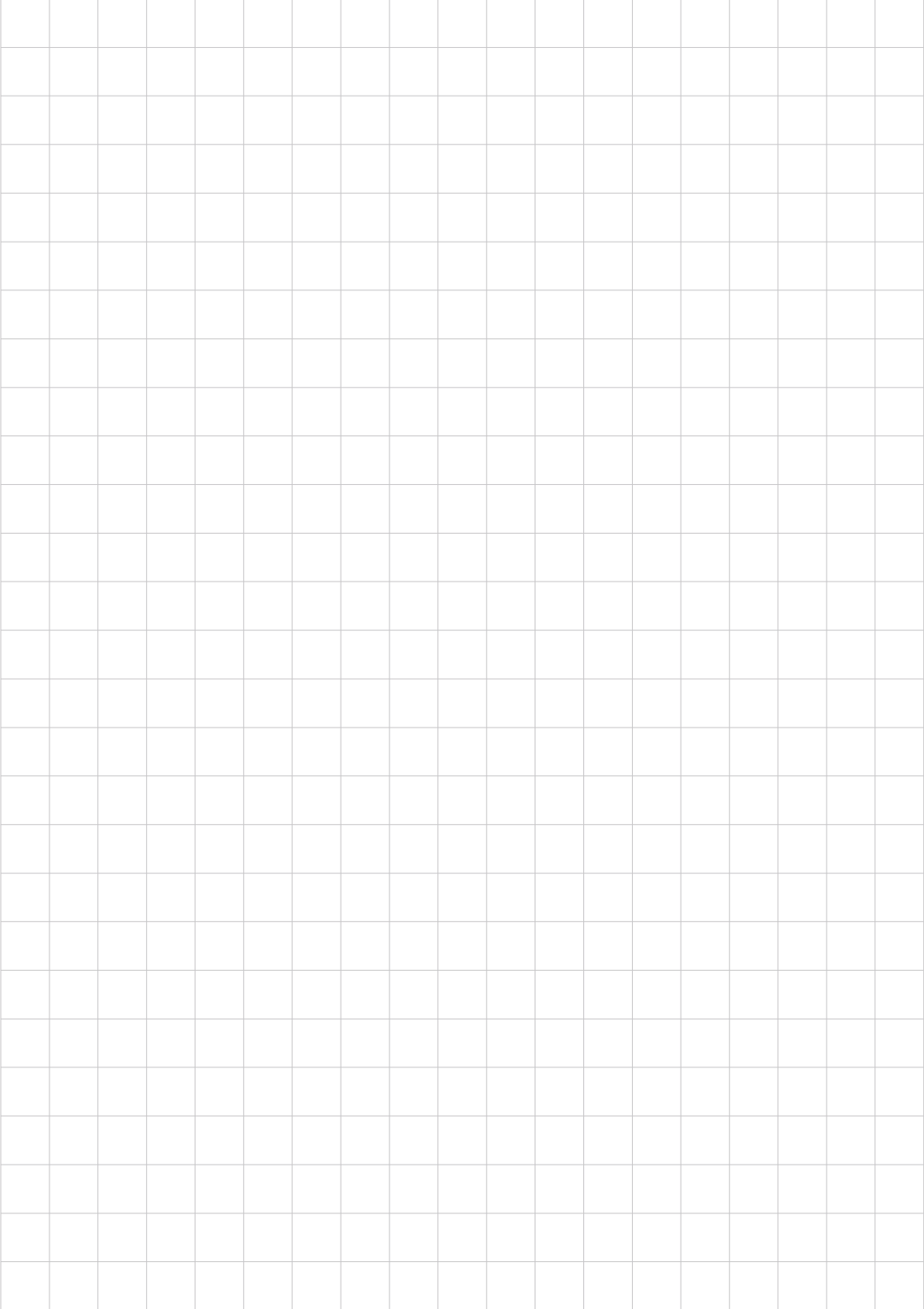


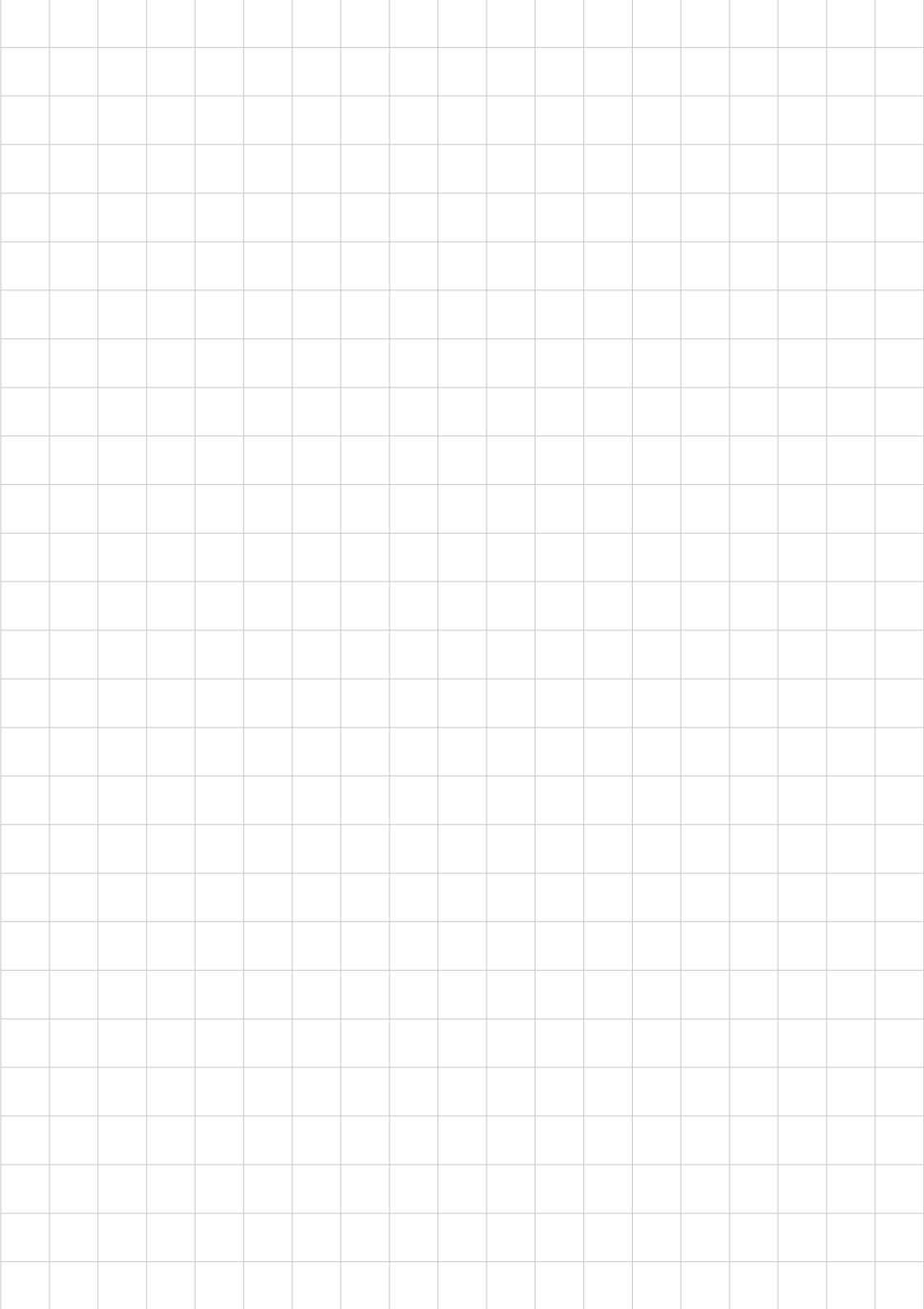


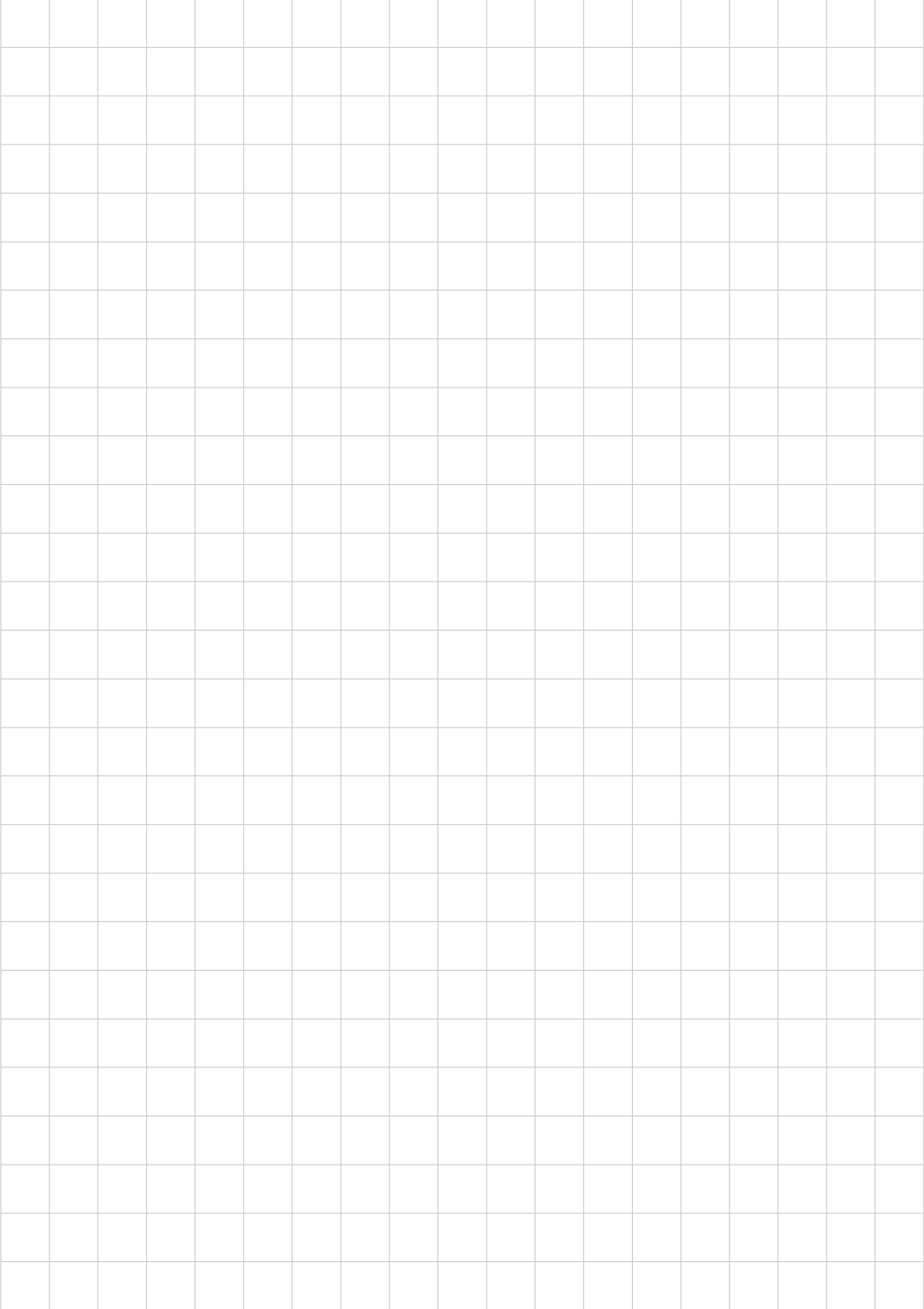


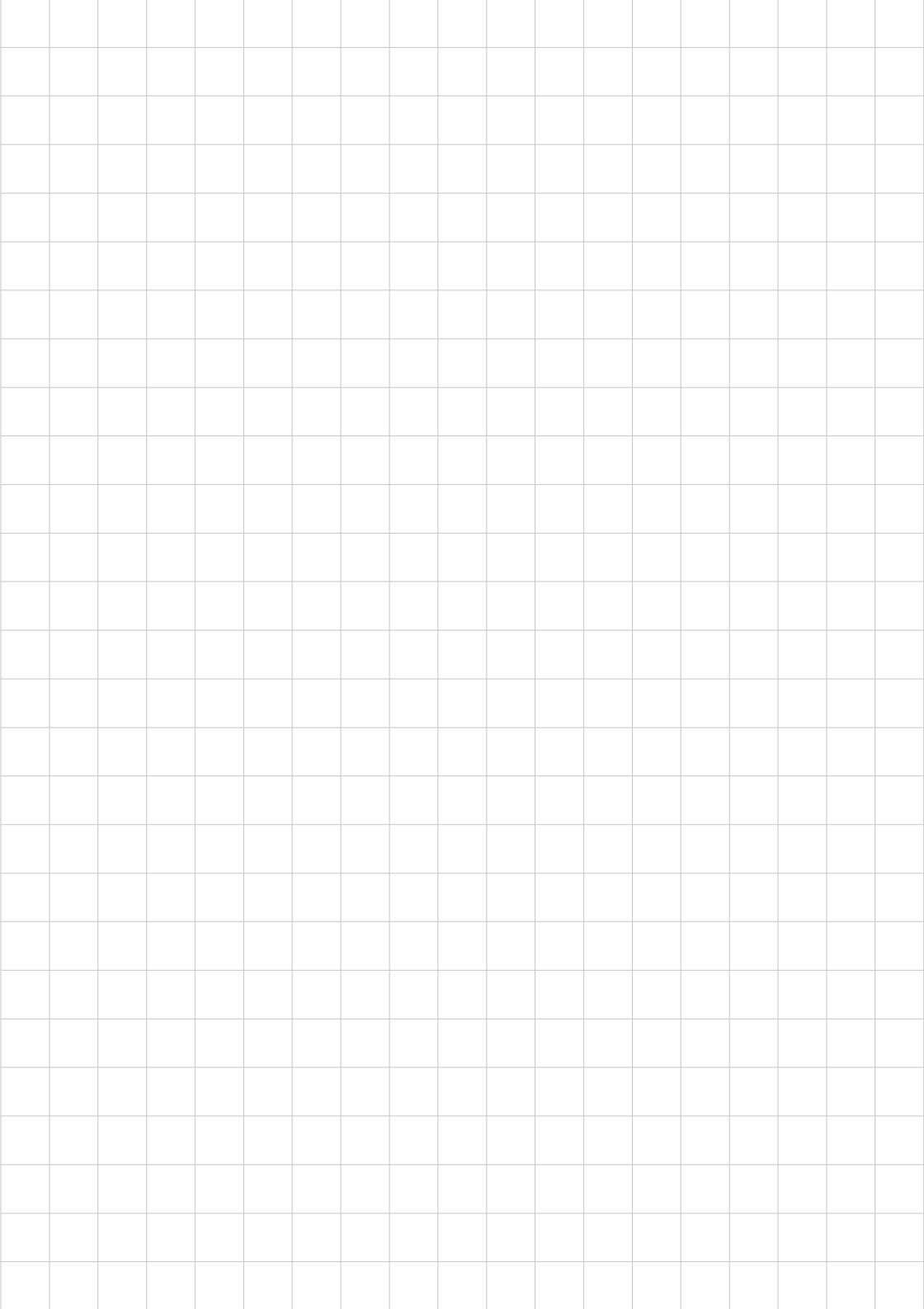












	2020 DEFENDER 90 (MHEV GAS) 3.0 TC I6 395HP	2020 DEFENDER 110 (GAS) 2.0 TC I4 296HP	2020 DEFENDER 110 (MHEV GAS) 3.0 TC I6 395HP
Available Trims	First Edition	Defender S	SE HSE X First Edition
ENGINE			
Engine Layout	Inline 6	Inline 4	Inline 6
Induction	Turbocharged with Electric Boost	Turbocharged	Turbocharged with Electric Boost
Displacement (cc)	2,996.0	1,997.3	2,996.0
Bore / Stroke (mm)	83.0 x 92.3	83.0 x 92.3	83.0 x 92.3
Compression Ratio (r:1)	10.5	9.5	10.5
Max Power (hp)	395 @ 5,500rpm	296 @ 5,500rpm	395 @ 5,500rpm
Max Torque (lb ft)	406 @ 2,000-5,000rpm	295 @ 1,500-4,000rpm	406 @ 2,000-5,000rpm
ELECTRIC DRIVE / BATTERY			
Electric Motor Type	Permanent Magnet	-	Permanent Magnet
Battery Type	Lithium Ion	-	Lithium Ion
TRANSMISSION / DRIVETRAIN			
Transmission Type	ZF® 8-Speed Automatic (8HP76)	ZF® 8-Speed Automatic (8HP45)	ZF® 8-Speed Automatic (8HP76)
1st (r:1)	5,500 / 16,115	4,714 / 13,812	5,500 / 16,115
2nd (r:1)	3,520 / 10,314	3,143 / 9,209	3,520 / 10,314
3rd (r:1)	2,200 / 6,446	2,106 / 6,171	2,200 / 6,446
4th (r:1)	1,720 / 5,040	1,667 / 4,884	1,720 / 5,040
5th (r:1)	1,317 / 3,859	1,285 / 3,765	1,317 / 3,859
6th (r:1)	1,000 / 2,930	1,000 / 2,930	1,000 / 2,930
7th (r:1)	0.823 / 2,411	0.839 / 2,458	0.823 / 2,411
8th (r:1)	0.640 / 1,875	0.667 / 1,954	0.640 / 1,875
Reverse (r:1)	-3,993 / -11,699	-3,295 / -9,654	-3,993 / -11,699
Final Drive Ratio (r:1)	3.55	4.10	3.55
Transfer Box Ratio (r:1)	2.93	2.93	2.93
Four Wheel Drive System ²	Permanent Four Wheel Drive with Terrain Response®	Permanent Four Wheel Drive with Terrain Response®, Optional Terrain Response® 2	Permanent Four Wheel Drive with Terrain Response®, Optional Terrain Response® 2* and Optional Locking Center and Active Locking Rear Differential**

*Standard on First Edition and X models

	2020 DEFENDER 90 (MHEV GAS) 3.0 TC 16 395HP	2020 DEFENDER 110 (GAS) 2.0 TC 14 296HP	2020 DEFENDER 110 (MHEV GAS) 3.0 TC 16 395HP
SUSPENSION / STEERING / BRAKES			
Front Suspension	SLA, with Double Wishbone Twin Lower Links		
Rear Suspension	Integral Link		
Steering	Electronic Power Assisted Steering (EPAS) Rack and Pinion		
Turning Circle - Curb-to-Curb (ft)	37.1	42.1	42.1
Brake Diameter (in)	Front: 14.3 Rear: 13.8	Front: 13.7 Rear: 12.8	Front: 14.3 Rear: 13.8
WHEELS / TIRES			
Available Wheel Sizes (in)	18 x 8.0 19 x 8.0 20 x 8.5 22 x 9.0	18 x 8.0 19 x 8.0 20 x 8.5 22 x 9.0	18 x 8.0 19 x 8.0 20 x 8.5 22 x 9.0
Available Tire Sizes	255/70R18 255/65R19 255/60R20 275/45R22	255/70R18 255/65R19 255/60R20 275/45R22	255/70R18 255/65R19 255/60R20 275/45R22
EXTERIOR DIMENSIONS			
Overall Length (in)	Without Rear Mounted Spare Wheel: 170.2 With Rear Mounted Spare Wheel: 180.4	Without Rear Mounted Spare Wheel: 187.3 With Rear Mounted Spare Wheel: 197.6	Without Rear Mounted Spare Wheel: 187.3 With Rear Mounted Spare Wheel: 197.6
Overall Height (in)	77.5	77.4	77.4
Overall Width (excluding mirrors) (in)	78.6	78.6	78.6
Overall Width (with mirrors folded) (in)	79.1	79.1	79.1
Overall Width (with mirrors out) (in)	82.9	82.9	82.9
Wheelbase (in)	101.9	119.0	119.0
Front Overhang (in)	33.3	33.3	33.3
Rear Overhang (in)	Without Rear Mounted Spare Wheel: 35.1 With Rear Mounted Spare Wheel: 45.3	Without Rear Mounted Spare Wheel: 35.1 With Rear Mounted Spare Wheel: 45.3	Without Rear Mounted Spare Wheel: 35.1 With Rear Mounted Spare Wheel: 45.3
Front Track (in)	67.2	67.1	67.1
Rear Track (in)	67.0	66.9	66.9
Drag Coefficient (Cd)	From 0.40	From 0.38	From 0.40



DEFENDER

