



Instructions for Form 5695

Residential Energy Credits

Section references are to the Internal Revenue Code unless otherwise noted.

General Instructions

Future Developments

For the latest information about developments related to Form 5695 and its instructions, such as legislation enacted after they were published, go to [IRS.gov/Form5695](https://www.irs.gov/Form5695).

What's New

Residential clean energy credit. The residential energy efficient property credit is now the residential clean energy credit. The credit rate for property placed in service in 2022 through 2032 is 30%.

Energy efficient home improvement credit. The nonbusiness energy property credit is now the energy efficient home improvement credit. The credit is extended to property placed in service through December 31, 2022.

Purpose of Form

Use Form 5695 to figure and take your residential energy credits. The residential energy credits are:

- The residential clean energy credit, and
- The energy efficient home improvement credit.

Also use Form 5695 to take any residential energy efficient property credit carryforward from 2021 or to carry the unused portion of the residential clean energy credit to 2023.

Who Can Take the Credits

You may be able to take the credits if you made energy saving improvements to your home located in the United States in 2022.

Home. A home is where you lived in 2022 and can include a house, houseboat, mobile home, cooperative apartment, condominium, and a manufactured home that conforms to Federal Manufactured Home Construction and Safety Standards.

You must reduce the basis of your home by the amount of any credit allowed.

Main home. Your main home is generally the home where you live most of the time. A temporary absence due to special circumstances, such as illness, education, business, military service, or vacation, won't change your main home.

Costs. For purposes of both credits, costs are treated as being paid when the original installation of the item is completed, or, in the case of costs connected with the reconstruction of your home, when your original use of the reconstructed home begins. For purposes of the residential clean energy credit only, costs connected with the construction of a home are treated as being paid when your original use of the constructed home begins. If less than 80% of the use of an item is for nonbusiness purposes, only that portion of the costs that is allocable to the nonbusiness use can be used to determine either credit.



The residential clean energy credit (Part I) is available for both existing homes and homes being constructed. The energy efficient home improvement credit (Part II) is only available for existing homes.



IRS guidance issued with respect to the energy credit under section 48, such as Notice 2018-59, does not apply to the residential energy credits.

Association or cooperative costs. If you are a member of a condominium management association for a condominium you own or a tenant-stockholder in a cooperative housing corporation, you are treated as having paid your proportionate share of any costs of such association or corporation.



If you received a subsidy from a public utility for the purchase or installation of an energy conservation product and that subsidy wasn't included in your gross income, you must reduce your cost for the product by the amount of that subsidy before you figure your credit. This rule also applies if a third party (such as a contractor) receives the subsidy on your behalf.

Residential Clean Energy Credit (Part I)

If you made energy saving improvements to more than one home that you used as a residence during 2022, enter the total of those costs on the applicable line(s) of one Form 5695. For qualified fuel cell property, see [Lines 7a and 7b](#), later.

You may be able to take a credit of 30% of your costs of qualified solar electric property, solar water heating property, small wind energy property, geothermal heat pump property, biomass fuel property, and fuel cell property. Include any labor costs properly allocable to the onsite preparation, assembly, or original installation of the residential energy efficient property and for piping or wiring to interconnect such property to the home. The credit amount for costs paid for qualified fuel cell property is limited to \$500 for each one-half kilowatt of capacity of the property.

Qualified solar electric property costs. Qualified solar electric property costs are costs for property that uses solar energy to generate electricity for use in your home located in the United States. No costs relating to a solar panel or other property installed as a roof (or portion thereof) will fail to qualify solely because the property constitutes a structural component of the structure on which it is installed. Some solar roofing tiles and solar roofing shingles serve the function of both traditional roofing and solar electric collectors, and thus serve functions of both solar electric generation and structural support. These solar roofing tiles and solar roofing shingles can qualify for the credit. This is in contrast to structural components such as a roof's decking or rafters that serve only a roofing or structural function and thus do not qualify for the credit. The home doesn't have to be your main home.

Qualified solar water heating property costs. Qualified solar water heating property costs are costs for property to heat water for use in your home located in the United States if at least half of the energy used by the solar water heating property for such purpose is derived from the sun. No costs relating to a solar panel or other property installed as a roof (or portion thereof) will fail to qualify solely because the property constitutes a structural component of the structure on which it is installed. Some solar roofing tiles and solar roofing shingles serve the function of both traditional roofing and solar electric collectors, and thus serve functions of both solar electric generation and structural support. These solar roofing tiles and solar roofing shingles can qualify for the credit. This is in contrast to structural components such as a roof's decking or rafters that serve only a roofing or structural function and thus do not qualify for the credit. To qualify for the credit, the property must be certified for performance by the nonprofit Solar Rating Certification

Corporation or a comparable entity endorsed by the government of the state in which the property is installed. The home doesn't have to be your main home.

Qualified small wind energy property costs. Qualified small wind energy property costs are costs for property that uses a wind turbine to generate electricity for use in connection with your home located in the United States. The home doesn't have to be your main home.

Qualified geothermal heat pump property costs. Qualified geothermal heat pump property costs are costs for qualified geothermal heat pump property installed on or in connection with your home located in the United States. Qualified geothermal heat pump property is any equipment that uses the ground or ground water as a thermal energy source to heat your home or as a thermal energy sink to cool your home. To qualify for the credit, the geothermal heat pump property must meet the requirements of the Energy Star program that are in effect at the time of purchase. The home doesn't have to be your main home.

Qualified biomass fuel property costs. Qualified biomass fuel property costs are costs for property which uses the burning of biomass fuel to heat a dwelling unit located in the United States and used as a residence by the taxpayer, or to heat water for use in such a dwelling unit, and has a thermal efficiency rating of at least 75% (measured by the higher heating value of the fuel). Biomass fuel means any plant derived fuel available on a renewable or recurring basis.

Qualified fuel cell property costs. Qualified fuel cell property costs are costs for qualified fuel cell property installed on or in connection with your main home located in the United States. Qualified fuel cell property is an integrated system comprised of a fuel cell stack assembly and associated balance of plant components that converts a fuel into electricity using electrochemical means. To qualify for the credit, the fuel cell property must have a nameplate capacity of at least one-half kilowatt of electricity using an electrochemical process and an electricity-only generation efficiency greater than 30%.



Costs allocable to a swimming pool, hot tub, or any other energy storage medium which has a function other than the function of such storage don't qualify for the residential clean energy credit.

Joint occupancy. If you occupied your home jointly with someone other than your spouse, each occupant must complete their own Form 5695. To figure the credit, the maximum qualifying costs that can be taken into account by all occupants for qualified fuel cell property costs is \$1,667 for each one-half kilowatt of capacity of the property. The amount allocable to you for qualified fuel cell property costs is the lesser of:

1. The amount you paid, or
2. The maximum qualifying cost of the property multiplied by a fraction. The numerator is the amount you paid and the denominator is the total amount paid by you and all other occupants.

These rules don't apply to married individuals filing a joint return.

Example. Taxpayer A owns a house with Taxpayer B where they both reside. In 2022, they installed qualified fuel cell property at a cost of \$20,000 with a kilowatt capacity of 5. Taxpayer A paid \$12,000 towards the cost of the property and Taxpayer B paid the remaining \$8,000. The amount to be allocated is \$16,670 ($\$1,667 \times 10$ (kilowatt capacity $\times 2$)). The amount of cost allocable to Taxpayer A is \$10,002 ($\$16,670 \times \$12,000/\$20,000$). The amount of cost allocable to Taxpayer B is \$6,668 ($\$16,670 \times \$8,000/\$20,000$).

Energy Efficient Home Improvement Credit (Part II)

You may be able to take a credit equal to the sum of:

1. 10% of the amount paid or incurred for qualified energy efficiency improvements installed during 2022, and
2. Any residential energy property costs paid or incurred in 2022.

However, this credit is limited as follows.

- A total combined credit limit of \$500 for all tax years after 2005.
- A combined credit limit of \$200 for windows for all tax years after 2005.
- A credit limit for residential energy property costs for 2022 of \$50 for any advanced main air circulating fan; \$150 for any qualified natural gas, propane, or oil furnace or hot water boiler; and \$300 for any item of energy efficient building property.



If the total of any nonbusiness energy property credits you have taken in previous years (after 2005) is more than \$500, you generally can't take the energy efficient home improvement credit in 2022.

Subsidized energy financing. Any amounts provided for by subsidized energy financing can't be used to figure the energy efficient home improvement credit. This is financing provided under a federal, state, or local program, the principal purpose of which is to provide subsidized financing for projects designed to conserve or produce energy.

Qualified energy efficiency improvements. Qualified energy efficiency improvements are the following building envelope components installed on or in your main home that you owned during 2022 located in the United States if the original use of the component begins with you, the component can be expected to remain in use at least 5 years, and the component meets certain energy standards.

- Any insulation material or system that is specifically and primarily designed to reduce heat loss or gain of a home when installed in or on such a home.
- Exterior windows and skylights.
- Exterior doors.
- Any metal roof with appropriate pigmented coatings or asphalt roof with appropriate cooling granules that are specifically and primarily designed to reduce the heat gain of your home.

For purposes of figuring the credit, don't include amounts paid for the onsite preparation, assembly, or original installation of the building envelope component.



To qualify for the credit, qualified energy efficiency improvements must meet certain energy efficiency requirements. See [Lines 19a Through 19h](#), later, for details.

Residential energy property costs. Residential energy property costs are costs of new qualified energy property that is installed on or in connection with your main home that you owned during 2022 located in the United States. Include any labor costs properly allocable to the onsite preparation, assembly, or original installation of the energy property. Qualified energy property is any of the following.

- Certain electric heat pump water heaters; electric heat pumps; central air conditioners; and natural gas, propane, or oil water heaters.
- Qualified natural gas, propane, or oil furnaces and qualified natural gas, propane, or oil hot water boilers.
- Certain advanced main air circulating fans used in natural gas, propane, or oil furnaces.



To qualify for the credit, qualified energy property must meet certain energy efficiency requirements. See [Lines 22a Through 22c](#), later, for details.

Joint ownership of qualified property. If you and a neighbor shared the cost of qualifying property to benefit each of your main homes, both of you can take the energy efficient home improvement credit. You figure your credit on the part of the cost you paid. The limit on the amount of the credit applies to each of you separately.

Married taxpayers with more than one home. If both you and your spouse owned and lived apart in separate main homes, the

limit on the amount of the credit applies to each of you separately. If you are filing separate returns, both of you would complete a separate Form 5695. If you are filing a joint return, figure your energy efficient home improvement credit as follows.

1. Complete lines 17a through 17c and 19 through 24 of a separate Form 5695 for each main home.
2. Figure the amount to be entered on line 24 of both forms (but not more than \$500 for each form) and enter the combined amount on line 24 of one of the forms.
3. On line 25 of the form with the combined amount on line 24, cross out the preprinted \$500 and enter \$1,000.
4. On the dotted line to the left of line 25, enter "More than one main home." Then, complete the rest of this form, including line 18. The amount on line 18 can exceed \$500.
5. Attach both forms to your return.

Joint occupancy. If you owned your home jointly with someone other than your spouse, each owner must complete their own Form 5695. To figure the credit, there are no maximum qualifying costs for insulation, exterior doors, and a metal or asphalt roof. Enter the amounts you paid for these items on the appropriate lines of Form 5695, Part II. For windows and residential energy property costs, the amount allocable to you is the smaller of:

1. The amount you paid, or
2. The maximum qualifying cost* of the property multiplied by a fraction. The numerator is the amount you paid and the denominator is the total amount paid by you and all other owners.

* \$2,000 for windows; \$300 for energy-efficient building property; \$150 for qualified natural gas, propane, or oil furnace or hot water boiler; or \$50 for an advanced main air circulating fan.


Specific Instructions

Part I

Residential Clean Energy Credit

Before you begin Part I.

Figure the amount of the credits shown in the credit limitation worksheet if you take those credits on your return.

 **TIP** Also, include on lines 1 through 5, and 8, any labor costs properly allocable to the onsite preparation, assembly, or original installation of the property and for piping or wiring to interconnect such property to the home.

Line 1

Enter the amounts you paid for qualified solar electric property. See [Qualified solar electric property costs](#), earlier.

Line 2

Enter the amounts you paid for qualified solar water heating property. See [Qualified solar water heating property costs](#), earlier.

Line 3

Enter the amounts you paid for qualified small wind energy property. See [Qualified small wind energy property costs](#), earlier.

Line 4

Enter the amounts you paid for qualified geothermal heat pump property. See [Qualified geothermal heat pump property costs](#), earlier.

Line 5

Enter the amounts you paid for qualified biomass fuel property. See [Qualified biomass fuel property costs](#), earlier.

Lines 7a and 7b

Any qualified fuel cell property costs must have been for your main home located in the United States. See [Main home](#), earlier. If you check the "No" box, you can't include any fuel cell property costs on line 8.

If you check the "Yes" box, enter the full address of your main home during 2022 on line 7b.

If you and your spouse are filing jointly and you each have different main homes with qualified fuel cell property costs, provide on line 7b the address of your main home. Add a sheet providing the address of your spouse's main home. You and your spouse should add your qualified fuel cell property costs together on line 8 of one Form 5695.

Line 8

Enter the amounts you paid for qualified fuel cell property. See [Qualified fuel cell property costs](#), earlier.

Line 14

Complete the following [worksheet](#) to figure the amount to enter on line 14.

Residential Clean Energy Credit Limit Worksheet—Line 14

- | | |
|--|---|
| <p>1. Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18 . . .</p> <p>2. Enter the total of the following credit(s)/adjustment(s) if you are taking the credit(s)/adjustment(s) on your 2022 income tax return:</p> <ul style="list-style-type: none"> + Negative Form 8978 Adjustment, Schedule 3 (Form 1040), line 6l . . . + Foreign Tax Credit, Schedule 3 (Form 1040), line 1 + Credit for Child and Dependent Care Expenses, Schedule 3 (Form 1040), line 2 + Credit for the Elderly or the Disabled, Schedule R (Form 1040), line 22 + Nonrefundable Education Credits, Schedule 3 (Form 1040), line 3 + Retirement Savings Contributions Credit, Schedule 3 (Form 1040), line 4 + Energy efficient home improvement credit, Form 5695, line 30* + Alternative Motor Vehicle Credit, Personal use part, Form 8910, line 15 + Qualified Plug-in Electric Drive Motor Vehicle Credit, Personal use part, Form 8936, line 23 + Child tax credit and credit for other dependents, Form 1040, 1040-SR, or 1040-NR, line 19** + Mortgage Interest Credit, Form 8396, line 9 + Adoption Credit, Form 8839, line 16 + Carryforward of the District of Columbia First-Time Homebuyer Credit, Form 8859, line 3 <p>Note. Enter the total of the preceding credit(s)/adjustment(s), only if allowed and taken on your 2022 income tax return. Not all credits/adjustments are available for all years nor for all filers. See the instructions for your 2022 income tax return.</p> | <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> |
|--|---|

* If applicable.

** Include the amount from Schedule 8812 (Form 1040), Credit Limit Worksheet B, line 14, instead of the amount from Form 1040, 1040-SR, or 1040-NR, line 19, if the instructions for Schedule 8812 (Form 1040) direct you to complete Credit Limit Worksheet B.

Manufacturer’s certification. For purposes of taking the credit, you can rely on the manufacturer’s certification, in writing, that a product is qualifying property for the credit. Don’t attach the certification to your return. Keep it for your records.

Line 16

If you can’t use all of the credit because of the tax liability limit (that is, line 14 is less than line 13), you can carry the unused portion of the credit to 2023.

File this form even if you can’t use any of your credit in 2022.

**Part II
Energy Efficient Home Improvement
Credit**

Before you begin Part II.

Figure the amount of the credits shown in the credit limitation worksheet if you take those credits on your return.

Lines 17a Through 17c

Line 17a. To qualify for the credit, any qualified energy efficiency improvements or residential energy property costs must have been for your main home located in the United States. See [Main home](#), earlier. If you check the “No” box, you can’t take the energy efficient home improvement credit.

Line 17b. Enter the full address of your main home during 2022.

Line 17c. You may only include expenses for qualified improvements for an existing home or for an addition or renovation to an existing home, and not for a newly constructed home. If you check the “Yes” box, you can’t claim any expenses for qualified improvements that are related to the construction of your home, even if the improvement is installed after you have moved into the home.

Line 18

If you took an energy efficient home improvement credit in 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, or 2021, complete the following [worksheet](#) to figure the amount to enter on line 18. If the total of the credits on the worksheet is \$500 or more, you generally can’t take the energy efficient home improvement credit for 2022.

Lifetime Limitation Worksheet—Line 18

1. Enter the amount, if any, from your 2006 Form 5695, line 12 1. _____
2. Enter the amount, if any, from your 2007 Form 5695, line 15 2. _____
3. Enter the amount, if any, from your 2009 Form 5695, line 11 3. _____
4. Enter the amount, if any, from your 2010 Form 5695, line 11 4. _____
5. Enter the amount, if any, from your 2011 Form 5695, line 14 5. _____
6. Enter the amount, if any, from your 2012 Form 5695, line 32 6. _____
7. Enter the amount, if any, from your 2013 Form 5695, line 30 7. _____
8. Enter the amount, if any, from your 2014 Form 5695, line 30 8. _____
9. Enter the amount, if any, from your 2015 Form 5695, line 30 9. _____
10. Enter the amount, if any, from your 2016 Form 5695, line 30 10. _____
11. Enter the amount, if any, from your 2017 Form 5695, line 30 11. _____
12. Enter the amount, if any, from your 2018 Form 5695, line 30 12. _____
13. Enter the amount, if any, from your 2019 Form 5695, line 30 13. _____
14. Enter the amount, if any, from your 2020 Form 5695, line 30 14. _____
15. Enter the amount, if any, from your 2021 Form 5695, line 30 15. _____
16. Add lines 1 through 15. Also enter this amount on Form 5695, line 18. If \$500 or more, **stop**; you can't take the energy efficient home improvement credit . . . 16. _____

Line 19a. Enter the amounts you paid for any insulation material or system (including any vapor retarder or seal to limit infiltration) that is specifically and primarily designed to reduce the heat loss or gain of your home when installed in or on such home and meets the prescriptive criteria established by the IECC.



A component isn't specifically and primarily designed to reduce the heat loss or gain of your home if it provides structural support or a finished surface (such as drywall or siding) or its principal purpose is to serve any function unrelated to the reduction of heat loss or gain.

Line 19b. Enter the amounts you paid for exterior doors that meet or exceed the version 6.0 Energy Star program requirements.

Line 19c. Enter the amounts you paid for a metal roof with the appropriate pigmented coatings or an asphalt roof with the appropriate cooling granules that are specifically and primarily designed to reduce the heat gain of your home, and the roof meets or exceeds the Energy Star program requirements in effect at the time of purchase or installation.

Line 19d. Enter the amounts you paid for exterior windows and skylights that meet or exceed the version 6.0 Energy Star program requirements.



If you took the credit for windows in 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, or 2021, you may not be able to include window expenses this year.

Line 19f. If you reported expenses on your 2006 Form 5695, line 2b; 2007 Form 5695, line 2d; 2009 Form 5695, line 2b; 2010 Form 5695, line 2b; 2011 Form 5695, line 3d; 2012 Form 5695, line 21d; 2013 Form 5695, line 19d; 2014 Form 5695, line 19d; 2015 Form 5695, line 19d; 2016 Form 5695, line 19d; 2017 Form 5695, line 19d; 2018 Form 5695, line 19d; 2019 Form 5695, line 19d; 2020 Form 5695, line 19d, or 2021 Form 5695, line 19d, then use the [worksheet](#) next to figure the amount to enter on line 19f.

Lines 19a Through 19h

Note. A reference to the IECC is a reference to the 2009 International Energy Conservation Code as in effect (with supplements) on February 17, 2009.



Don't include on lines 19a through 19d any amounts paid for the onsite preparation, assembly, or original installation of the components.

Window Expense Worksheet—Line 19f

1. Enter the amount from your 2006 Form 5695, line 2b	1.	_____
2. Enter the amount from your 2007 Form 5695, line 2d	2.	_____
3. Enter the amount from your 2009 Form 5695, line 2b	3.	_____
4. Enter the amount from your 2010 Form 5695, line 2b	4.	_____
5. Add lines 3 and 4	5.	_____
6. Multiply line 5 by 3.0	6.	_____
7. Enter the amount from your 2011 Form 5695, line 3d	7.	_____
8. Enter the amount from your 2012 Form 5695, line 21d	8.	_____
9. Enter the amount from your 2013 Form 5695, line 19d	9.	_____
10. Enter the amount from your 2014 Form 5695, line 19d	10.	_____
11. Enter the amount from your 2015 Form 5695, line 19d	11.	_____
12. Enter the amount from your 2016 Form 5695, line 19d	12.	_____
13. Enter the amount from your 2017 Form 5695, line 19d	13.	_____
14. Enter the amount from your 2018 Form 5695, line 19d	14.	_____
15. Enter the amount from your 2019 Form 5695, line 19d	15.	_____
16. Enter the amount from your 2020 Form 5695, line 19d	16.	_____
17. Enter the amount from your 2021 Form 5695, line 19d	17.	_____
18. Add lines 1, 2, and 6 through 17. Also enter this amount on Form 5695, line 19f	18.	=====

Manufacturer's certification. For purposes of taking the credit, you can rely on a manufacturer's certification in writing that a building envelope component is an eligible building envelope component. Don't attach the certification to your return. Keep it for your records.

Lines 22a Through 22c

TIP Also include on lines 22a through 22c any labor costs properly allocable to the onsite preparation, assembly, or original installation of the property.

Line 22a. Enter the amounts you paid for energy-efficient building property. Energy-efficient building property is any of the following.

- An electric heat pump water heater that yields a Uniform Energy Factor of at least 2.2 in the standard Department of Energy test procedure.
- An electric heat pump that achieves the highest efficiency tier established by the Consortium for Energy Efficiency (CEE) as in effect on January 1, 2009.
- A central air conditioner that achieves the highest efficiency tier that has been established by the CEE as in effect on January 1, 2009.
- A natural gas, propane, or oil water heater that has a Uniform Energy Factor of at least 0.82 or a thermal efficiency of at least 90%.

Don't enter more than \$300 on line 22a.

Line 22b. Enter the amounts you paid for a natural gas, propane, or oil furnace or hot water boiler that achieves an annual fuel utilization rate of at least 95.

Don't enter more than \$150 on line 22b.

Line 22c. Enter the amounts you paid for an advanced main air circulating fan used in a natural gas, propane, or oil furnace that has an annual electricity use of no more than 2% of the total annual energy use of the furnace (as determined in the standard Department of Energy test procedures).

Don't enter more than \$50 on line 22c.

Manufacturer's certification. For purposes of taking the credit, you can rely on a manufacturer's certification in writing that a product is qualified energy property. Don't attach the certification to your return. Keep it for your records.

Line 25

If the rules discussed earlier for joint occupancy apply, cross out the preprinted \$500 on line 25, and enter on line 25 the smaller of:

1. The amount on line 24, or
2. \$500 multiplied by a fraction. The numerator is the amount on line 24. The denominator is the total amount from line 24 for all owners.

For more details, see [Joint occupancy](#), earlier.

Line 29

Complete the [worksheet](#) below to figure the amount to enter on line 29.

**Energy Efficient Home Improvement Credit Limit
Worksheet—Line 29**

-
1. Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18 . . . 1. _____
2. Enter the total of the following credit(s)/adjustment(s) if you are taking the credit(s)/adjustment(s) on your 2022 income tax return:
- + Negative Form 8978 Adjustment, Schedule 3 (Form 1040), line 6l _____
 - + Foreign Tax Credit, Schedule 3 (Form 1040), line 1 _____
 - + Credit for Child and Dependent Care Expenses, Schedule 3 (Form 1040), line 2 _____
 - + Credit for the Elderly or the Disabled, Schedule R (Form 1040), line 22 _____
 - + Nonrefundable Education Credits, Schedule 3 (Form 1040), line 3 _____
 - + Retirement Savings Contributions Credit, Schedule 3 (Form 1040), line 4 _____
- Note.** Enter the total of the preceding credit(s)/adjustment(s), only if allowed and taken on your 2022 income tax return. Not all credits/adjustments are available for all years nor for all filers. See the instructions for your 2022 income tax return.*
2. _____
3. Subtract line 2 from line 1. Also enter this amount on Form 5695, line 29. If zero or less, enter -0- on Form 5695, lines 29 and 30 3. _____