Division of Integers – Solve problems involving integers, including word problems.
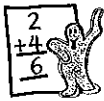
Example

Calculate $^-12 \div ^-2$
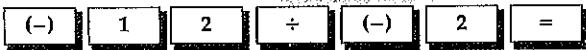
To divide two integers together we divide as normal, but use the rules below to identify the 'sign' of the answer.

Rules for ÷

÷	+	−
+	+	−
−	−	+

Using the rule in the table

$^-12 \div ^-2 = 6$

By calculator

| (−) | 1 | 2 | ÷ | (−) | 2 | = |

Notes

·When dividing, if the two signs are the same then the answer will be a +.

When dividing, if the two signs are different then the answer will be a −.
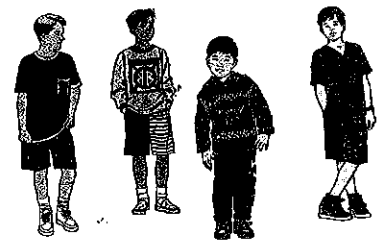
Problems

Calculate the following integer problems using your calculator if you wish.

1. $^-18 \div 2 =$

2. $^-212 \div ^-4 =$

3. $417 \div ^-3 =$

4. $546 \div 6 =$

5. $^-88 \div 4 \div ^-2 =$

6. $^-256 \div ^-4 \div ^-8 =$

7. $120 \div 6 \div ^-4 =$

8. $\dfrac{-30}{-6} =$

9. $\dfrac{48}{-3} =$

10. $\dfrac{-252}{9} =$

Application Problems

Write questions 11 and 12 as an integer expression and then solve.

11. A company is $248 544 in debt. If the debt is to be shared among the 8 directors, how much of the debt is each director responsible for?

12. A holiday home is purchased by a group of 6 people. The cost of the home is $285 000. If the group pay a deposit of $33 000 and borrow the rest from the bank, what amount does each individual owe the bank?

13. Find the value in the bottom oval of the triangle. The value in an empty oval is calculated by dividing the two integers immediately above.

14. Starting with the number 32 follow the arrows along the correct path to get to the answer ⁻5. Fill in the correct numbers in the rectangles along the way.
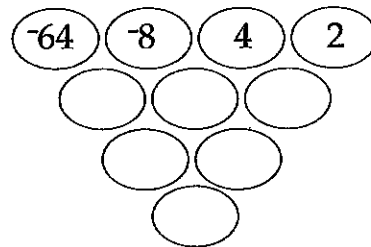

Problem Solving

Someone asks Paul, "Who is the heaviest of your friends?". Paul replies, "Henry is lighter than Peter but heavier than John. Matthew is lighter than Peter but heavier than Henry". Who is the heaviest?
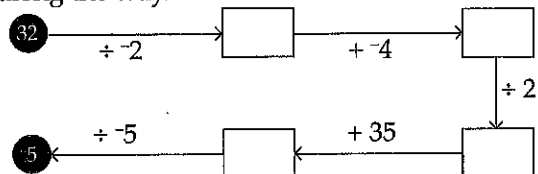
I found this work			Proportion completed				
Easy	OK	Difficult	None	Few	Half	Most	All

Date: