1. Thirteen plums weigh as much as two apples and one pear. Four plums and one apple have the same weight as one pear. How many plums have the weight of one pear?

2. In lowest terms, what is the product of this multiplication?

\[
\frac{3\times5\times7\times9\times11\times13\times15\times17\times19\times21\times23\times25}{5\times7\times9\times11\times13\times15\times17\times19\times21\times23\times25\times27}
\]

3. A train can hold 78 passengers. The train starts out empty and picks up 1 passenger at the first stop, 2 passengers at the second stop, 3 passengers at the third stop, and so forth. After how many stops will the train be full?

4. Twenty celebrities are gathered at a benefit concert, each carrying their own autograph book. If each of the celebrities autographs the other’s autograph book, how many autographs are signed in all?

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5. At Alan's next birthday, he will be twice the age of his cousin Joel. Joel is now two-thirds the age of his sister, Amanda, who is 18. How old is Alan?

6. A and B are whole numbers, and \( \frac{A}{11} + \frac{B}{3} = \frac{31}{33} \).
Find the value of A and the value of B.

7. Piedmont Middle School's basketball team has a total of 5 players. It's time for the team photo for the school yearbook and the coach has to decide in what order to place the players for the picture. How many different orders for placing the players are possible?

End of test 😊 You may KEEP this copy of the test.
1. If 20 is added to one-third of a number, the result is the double of the number. What is the number?

2. As shown, a square is made up of four congruent rectangles and a smaller square. One side of the larger square is 14 cm. One side of the smaller square is 8 cm. What is the area of the shaded rectangle, in sq. cm?

3. Express as a single number:

\[ (-2) + (-2)(-2) + (-2)(-2)(-2) + (-2)(-2)(-2)(-2) + (-2)(-2)(-2)(-2)(-2) \]

4. Walters Middle School has a student body of 400. Three-fourths of the student body voted in the last election. Of the students who voted, \( \frac{1}{3} \) voted for Jennifer, \( \frac{1}{6} \) voted for Clayton, and \( \frac{2}{5} \) voted for Michael. How many voted for someone else?

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5. A dealer packages marbles in two different box sizes. One size holds 5 marbles and the other size holds 12 marbles. If the dealer packaged 99 marbles and used more than 10 boxes, how many boxes of each size did he use?

6. A palimage of a natural number is the number that has the same digits as the given number but in reverse order. For example, 659 and 956 are palimages; so are 1327 and 7231. Now add 354 and its palimage. Call this sum X. Add X and its palimage. Call this sum Y. Add Y and its palimage. Call this sum Z. What is the value of Z?

7. Ms. Tone plays music for her students as they write in their journals. She has eight CDs from which to choose. Three are classical music, two are soft rock, one is opera, and two are CDs brought in by her students. She places all 8 CDs in a bag and lets a student pick one to be played. What is the probability of the student choosing one of the CDs brought in by a student?

End of test😊 You may KEEP this copy of the test.