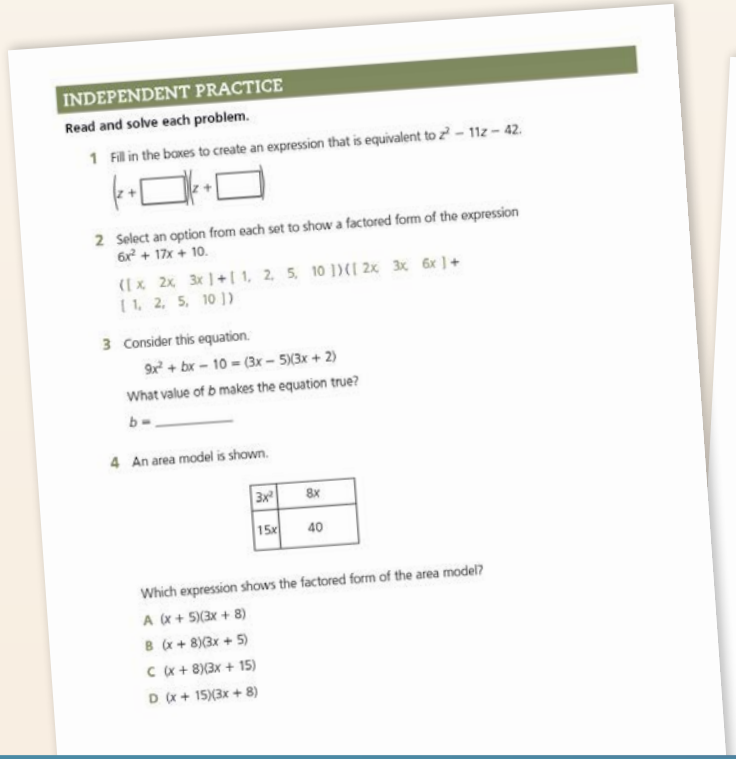
Indiana Math 10

Practice for Test Day

Item types include those from the grade 10 assessment to familiarize students with test day requirements: multiple choice, constructed response, and extended response. Technology enhanced items have been modified for print.



INDEPENDENT PRACTICE

Read and solve each problem.

1 Fill in the boxes to create an expression that is equivalent to $z^2 - 11z - 42$.

$(z + \square)(z + \square)$

2 Select an option from each set to show a factored form of the expression $6x^2 + 17x + 10$.

([x, 2x, 3x] + [1, 2, 5, 10])([2x, 3x, 6x] + [1, 2, 5, 10])

3 Consider this equation.

$9x^2 + bx - 10 = (3x - 5)(3x + 2)$

What value of b makes the equation true?

$b =$ _____

4 An area model is shown.

$3x^2$	8x
15x	40

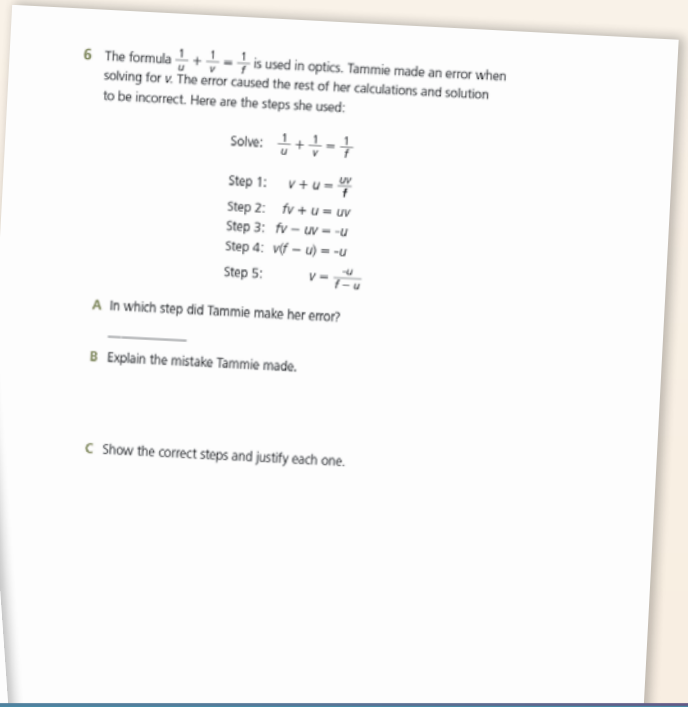
Which expression shows the factored form of the area model?

A $(x + 5)(3x + 8)$

B $(x + 8)(3x + 5)$

C $(x + 8)(3x + 15)$

D $(x + 15)(3x + 8)$



6 The formula $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ is used in optics. Tammie made an error when solving for v. The error caused the rest of her calculations and solution to be incorrect. Here are the steps she used:

Solve: $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$

Step 1: $v + u = \frac{uv}{f}$

Step 2: $fv + u = uv$

Step 3: $fv - uv = -u$

Step 4: $v(f - u) = -u$

Step 5: $v = \frac{-u}{f - u}$

A In which step did Tammie make her error?

_____

B Explain the mistake Tammie made.

C Show the correct steps and justify each one.