

**Which of these make good hinge-point questions?**

If a problem makes a good hinge-point question, say why. For problems that aren't good hinge-point questions, identify changes you could make to improve the question or suggest that it's a good question, but not for this purpose.

1. State which method you would use to solve the following system of equations and why. Then solve the problem.

$$\begin{aligned} 3x - y &= -2 \\ 5x + 2y &= 15 \end{aligned}$$

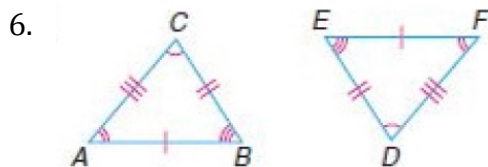
*McDougal Littell, Algebra 1, 2007, p. 164*

2. Given the solution set  $(4, -2)$ , create two systems of equations: one which could easily be solved by the substitution method and one that could be easily solved by the linear combination (elimination) method.

3. Describe differences between the graph  $y = 2\sin(3x)$  and the graph  $y = 3\cos\left(\frac{x}{2}\right)$ .

4. Write an equation of a trig function whose graph has zeros at  $3\pi, 0, -3\pi$ , and has a maximum point at  $\left(\frac{3\pi}{2}, 4\right)$ .

5. Identify corresponding parts of two congruent triangles if  $\triangle VALF \cong \triangle VBAN$ .

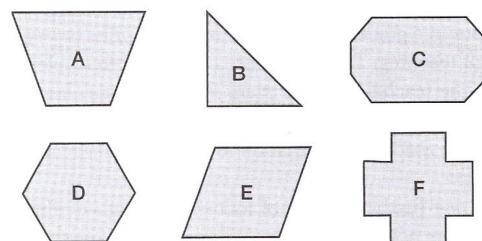


$\triangle CBA \cong \triangle \underline{\quad ? \quad}$

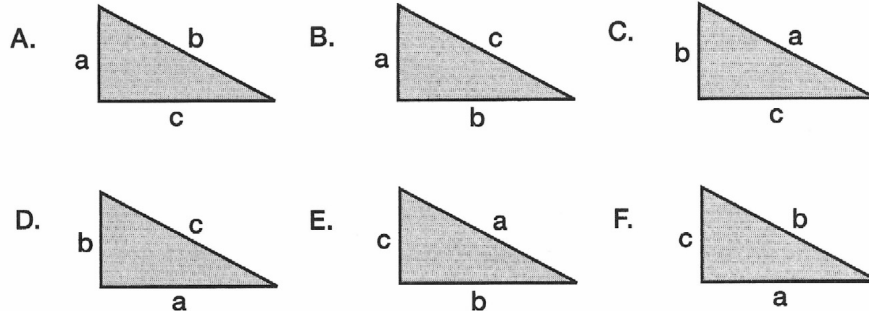
*Glencoe Geometry, 2007, p. 205*

7. Who ran the farthest on a track? Sally, who ran  $\frac{5}{7}$  of the way around, or Amy, who ran  $\frac{2}{3}$  of the way around?
8. Solve the following problems:
- 75% of what number is 51?
  - 75% of 52 is what number?
  - 75 is what percent of 25?
9. There are two flights per day from Newtown to Oldtown. The first flight leaves Newtown each day at 9:20 and arrives in Oldtown at 10:55. The second flight from Newtown leaves at 2:15. At what time does the second flight arrive in Oldtown?
10. How many lines of symmetry does each shape have?

*William, Embedded Formative Assessment, p. 103*



11. In which of these right triangles does  $a^2 + b^2 = c^2$ ?



Wiliam, *Embedded Formative Assessment*, p. 94

12. Look at the following sequence:

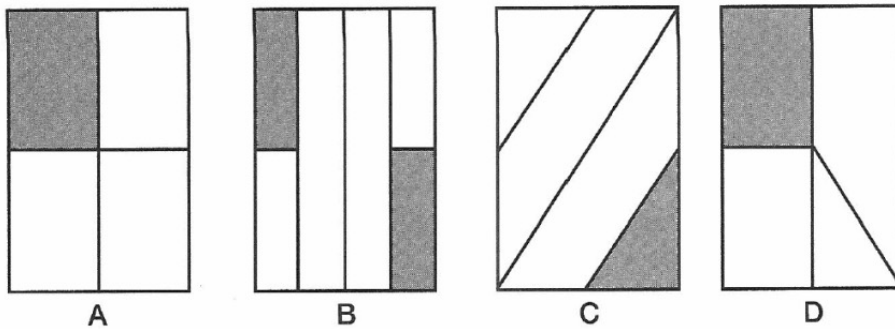
3, 7, 11, 15, 19, ...

Which is the best rule to describe the sequence?

- (A)  $n + 4$
- (B)  $3 + n$
- (C)  $4n - 1$
- (D)  $4n + 3$

Wiliam, *Embedded Formative Assessment*, p. 93

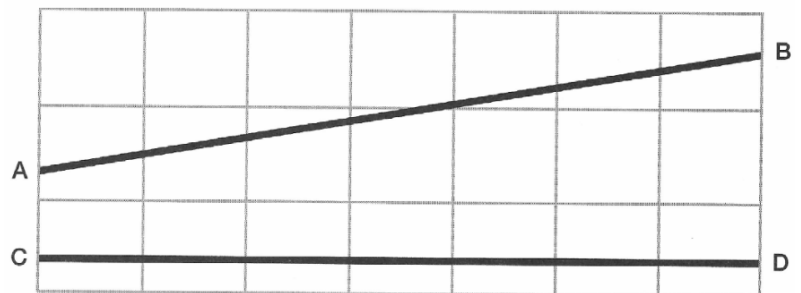
13. In which of the following diagrams is one-fourth of the area shaded?



Wiliam, *Embedded Formative Assessment*, p. 90

14. Which of the following statements is true?

- a.  $AB$  is longer than  $CD$ .
- b.  $AB$  is shorter than  $CD$ .
- c.  $AB$  and  $CD$  are the same length.



Wiliam, *Embedded Formative Assessment*, p. 89

15. Why is 17 prime and 21 not?

Wiliam, *Embedded Formative Assessment*, p. 86