Mixed practice problems for test April 24

1. Starting from the ratio information, the ratio of hardback to paperback books on my bookshelf is 3:5, express this same relationship in several ways, by filling each blank with a number:

a. There are \_\_3/5\_\_ as many hardback as paperback books on my shelf

b. \_\_3/8\_\_ of the books on my shelf are hardback books.

c. \_\_37.5\_\_ % of the books on my shelf are hardback books

2. There are 2/3 as many male teachers as female teachers in a school. If there are 30 teachers altogether, how many more female teachers than male teachers are there?

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3. At the pet store the ratio of mongrels to pure-breds is two to seven. Two more pure-bred dogs and two more mongrels are brought in. If there are 8 mongrels after the new dogs arrive, how many dogs are there now?

|  |  |  |  |
| --- | --- | --- | --- |
|  | mongrels | pure breds | ratio M:P |
| was |  |  | 2:7 |
| now | 8 |  |  |



4. Use dimensional analysis to solve: Bob reads 20 pages in 15 minutes. How long does it take him to read 35 pages?

Bob’s rate in minutes per page: 

Use the rate, keeping units: 

(note: any of the last 3 answers would be considered correct on a test)

5. For this triangle, draw in the height, using the bold side as the base, and draw in a parallelogram with twice the area that shares the bold side as a base:

 

*h*

6. Find the area of:



Area large trapezoid: (5+7)×8/2=48

Area circle: 

Area 1/4 circle: 

Area total shape: 



left triangle area: base is 2, height is 2 so 

trapezoid area: 

Total area: 6+2=8

7. Find the perimeter of:

   
Hah! I almost tricked myself—I thought this was a 3/4 circle, but then went to add on the two radii, and noticed one was 4 and the other 3. Oops.

Circumference of a whole larger circle: 

Circumference of 1/2 of the larger circle:   
Circumference of whole smaller circle: 

Circumference of 1/4 of the smaller circle: 

Add it up with the line segments to get a perimeter:



|  |  |
| --- | --- |
|  | Diagonal top left: Diagonal top right    Diagonal bottom left: Diagonal bottom right:    Perimeter: |