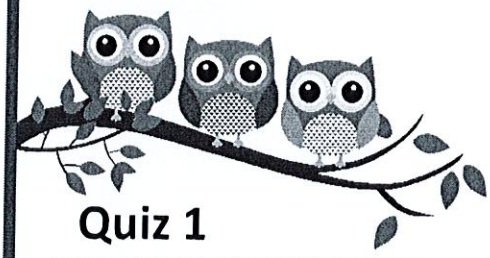
# Foundation Interleaving Quiz
# Branch 4
# Quizzes 1 to 3

Answers



## Quiz 1

| Q | Topic | ∑ | R | A | G |
|---|---|---|---|---|---|
| 1 | Fractions, Decimals & Percentages | | | | |
| 2 | Expand and Simplify | | | | |
| 3 | Angle Problem | | | | |
| 4 | Probability | | | | |
| | | | | | |

**Home Study Focus**

Home Study Completed ☐

## Quiz 2

| Q | Topic | ∑ | R | A | G |
|---|---|---|---|---|---|
| 1 | Four Rules of Fractions | | | | |
| 2 | Form and Solve Equations | | | | |
| 3 | Right Angled Trigonometry | | | | |
| 4 | Averages | | | | |
| | | | | | |

**Home Study Focus**

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## Quiz 3

| Q | Topic | ∑ | R | A | G |
|---|---|---|---|---|---|
| 1 | Percentage Problem | | | | |
| 2 | Solve Equations | | | | |
| 3 | Area Problem | | | | |
| 4 | Frequency Tree | | | | |
| | | | | | |

**Home Study Focus**

Home Study Completed ☐

# Foundation Interleaving Quiz

Answers

## Branch 4 Quiz 1

1) Here are four numbers. ***(2 marks)***

$\frac{5}{8}$ 0.65 $\frac{3}{5}$ 60.5%

✓✓ All correct ✓ for 1 Mistake.

Write these numbers in ascending order.

$\frac{5}{8} = 0.625 = 62.5\%$

$\frac{13}{20} = 0.65 = 65\%$

$\frac{3}{5} = 0.6 = 60\%$

$\frac{121}{200} = 0.605 = 60.5\%$

$\frac{3}{5}$ (60%) 60.5% (60.5%) $\frac{5}{8}$ (62.5%) 0.65 (65%)

2)

a) Simplify ***(1 mark)***

$m \times m \times m \times m \times m$

Answer: $m^5$ ✓

b) Simplify fully ***(2 marks)***

$3x + 4y - 5 + 2y - 8x - 2$

✓ ✓

Answer: $-5x + 6y - 7$

c) Expand ***(1 mark)***

$4(x - 3)$

Answer: $4x - 12$ ✓

d) Expand and simplify ***(2 marks)***

$(m + 3)(m - 5)$

| | m | −5 |
|---|---|---|
| m | $m^2$ | −5m |
| +3 | +3m | −15 |

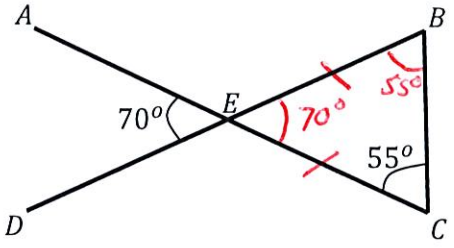
$m^2 - 5m + 3m - 15$ ✓

Answer: $m^2 - 2m - 15$ ✓

3) AEC and BED are straight lines. ***(4 marks)***

Show that the triangle BEC is an isosceles triangle.

Give a reason for each stage of your working.




BEC = 70° Vertically opposite angles are the same.

EBC = 180 − (70 + 55) = 55°

Angles inside a triangle equal 180°

It is isosceles as two angles are the same.

Answer:

4) There are only red, green, pink and blue counters in a bag.

| Colour | Red | Green | Pink | Blue |
|---|---|---|---|---|
| Probability | 0.2 | 0.1 | | 0.25 |

a) Work out the probability of selecting a pink counter. ***(1 mark)***

1 − (0.2 + 0.1 + 0.25)

= 1 − 0.55

Answer: = 0.45

b) There are 250 counters in the bag.

Work out the number of red counters in the bag. ***(2 marks)***

0.2 of 200 = 40

0.2 of 100 = 20

0.2 of 50 = 10

Answer: 50 red

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# Foundation Interleaving Quiz Answers

## Branch 4 Quiz 2

1)

a) Work out **(3 marks)**

$$\frac{5}{9}+\frac{2}{3}$$

Give your answer as a mixed number.

$\frac{5}{9}+\frac{6}{9}$ ✓ or $\frac{15+18}{27}$ ✓

$=\frac{11}{9}=1\frac{2}{9}$ ✓ $=\frac{33}{27}$ ✓

$=1\frac{6}{27}=1\frac{2}{9}$ ✓

Answer: $1\frac{2}{9}$

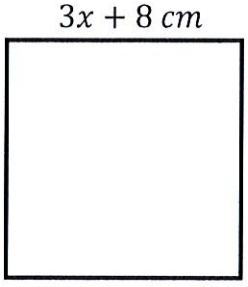
b) Find a fraction between $\frac{1}{5}$ and $\frac{1}{4}$ **(2 marks)**

$\frac{4}{20}$ $\frac{5}{20}$ ✓

$\frac{8}{40}$ $\frac{10}{40}$

Answer: 9/40 ✓

2) This is a square. **(5 marks)**




Work out the **length** of **one side** of the square.

$5(x-2)=3x+8$ ✓

$5x-10=3x+8$ ✓

$-3x \quad -3x$

$2x-10=8$

$+10 \quad +10$

$\frac{2x}{2}=\frac{18}{2}$ ✓

$x=9$ ✓

one side: $3x+8$

$=3(9)+8$

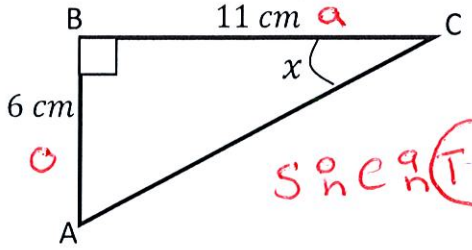
$=27+8$

$=35$ ✓

Answer: 35cm

3) Calculate the size of the angle $x$. **(2 marks)**

Give your answer to 1 decimal place.




O a

SOH CAH TOA

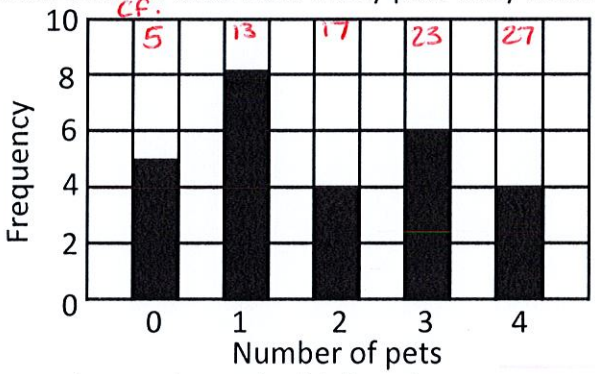
$\tan x=\frac{6}{11}$ ✓

$x=\tan^{-1}\left(\frac{6}{11}\right)$ ✓

$x=28.6°$

Answer: 28.6° ✓

4) Jack asks his class how many pets they have.




His results are shown in this bar chart.

OOOOO 1111111 2222 333333 4444

a) Find the mode number of pets. **(1 mark)**

Answer: 1 pet ✓

b) Find the median number of pets. **(2 marks)**

5+8+4+6+4 = 27

Person = $\frac{27+1}{2}$ = 14th ✓

Answer: 2 pets ✓

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# Foundation Interleaving Quiz

## Branch 4 Quiz 3

1)

a) The price of a TV is £320. ***(2 marks)***
In a sale the price is reduced by 18%
Calculate the sale price.

100% − 18% = 82% = 0.82

Method 1

10% = 32.00
1% = 3.20
8% = 25.60
18% = 57.60

or

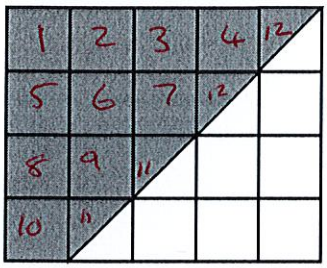
Method 2.

0.82 × 320 ✓
= 262.40 ✓

320 − 57.60
= 262.40 ✓

Answer: 262.40

b) What percentage of this shape is shaded? ***(2 marks)***




$\frac{12}{20}$ ✓ $= \frac{60}{100} = 60\%$ ✓

Answer:

2) Solve

a) $2x + 3 = 11$ ***(1 mark)***

−3 −3

$2x = 8$
$x = 4$ ✓

Answer: $x = 4$

b) $\frac{x}{3} - 6 = -1$ ***(2 marks)***

+6 +6

$\frac{x}{3} = 5$ ✓ $x = 5 \times 3$
$x = 15$ ✓

Answer: $x = 15$

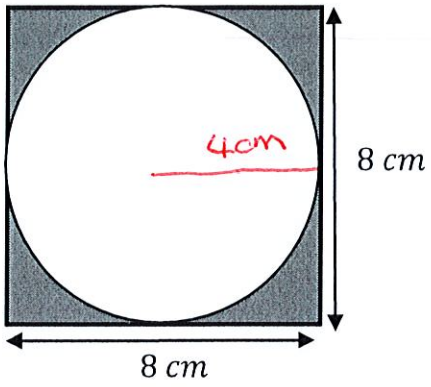
c) $4x^2 = 100$ ***(2 marks)***

$\frac{4}{4}$ $\frac{100}{4}$
$x^2 = 25$ ✓

$x = \sqrt{25} = \pm 5$ ✓ has to be + & −

Answer: $x = 5$ $x = -5$

3) The diagram shows a square and a circle.
Work out the shaded area. ***(3 marks)***



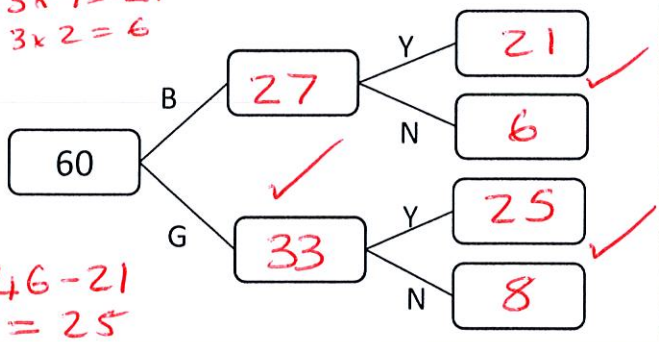

Area Square = 8 × 8 = 64cm² ✓
Area circle = π × 4² = 16π = 50.3cm² ✓
Shaded Area = 64 − 50.3 = 13.7

Answer: 13.7cm² ✓

4) 60 students in took part in a survey on whether they walk to school or not
27 students were boys.
Boys said yes and no to walking to school in the ratio of 7:2
46 students said yes to walking to school.
Complete the frequency tree. ***(3 marks)***

Y 3 3 3 3 3 3 3 27
N 3 3 27 ÷ 9 = 3

3 × 7 = 21
3 × 2 = 6




46 − 21
= 25

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